

American **FORESTS**

The Magazine of Forests, Soil, Water, Wildlife, and Outdoor Recreation

MARCH 1961

50 CENTS



CONSERVATION for CHILDREN

- **ON THE EAST COAST**
RANGER HAL (top)

See Page 16

- **ON THE WEST COAST**
CAPTAIN PUGET (bottom)

See Page 17





another user testimonial

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The American Forestry Association, publishers of American Forests, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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Forest Forum

Dr. Stedman's Article

EDITOR:

I would like to ask Mr. Stedman how long does he think any given wilderness area will remain wilderness. The predicted increase in outdoor recreation leaves no doubt that wilderness areas will receive a tremendous increase in use in the future; however, I do not believe any predictions have been made that human nature will change in the future. The hordes of wilderness users in the future will have among them people who are just as lazy, careless, selfish, and ignorant as many outdoor users are today. The result will be mountains of debris left at campsites, cutting of live trees for firewood, overgrazing by pack animals, pollution and sanitation problems

(wilderness areas are not to have any physical improvements), erosion on heavily used trails (very few wilderness travelers venture very far off the beaten trail), accidental setting of wildfires and other careless acts of the American outdoorsman. Many of the most beautiful wilderness areas in alpine country are in a very delicate ecological balance. Any careless act by man will surely result in the destruction of such areas in their natural state. It will be ironic, but the very people who profess to love the wilderness the most will be the very ones who destroy it by their carelessness.

Marshall D. Murray
Forester
Box 152
Headquarters, Idaho

EDITOR:

I want to express my appreciation of the fact that you include in your magazine some articles like that of C. K. Stedman, "An Algebraic Approach to Land Use in the Pacific Northwest."

Dr. Stedman deals with a subject which is becoming one of the most important facing mankind. We have the problem of properly using the natural resources. But as we also develop our human and esthetic attributes we begin to realize that the intangible resources of our planet are of the utmost importance to us—and this urge is on the upswing.

The cony, the packrat, the field mouse and so many others have learned to exist on the resources of the earth, but we human beings are reaching out for something more. As Dr. Stedman points out, if our numbers and material needs increase, an area of merchantable timber will not meet our needs anyway, while if such areas are devoted to our highest inspirational needs, we shall be all the more intelligent to meet the crisis wisely when it comes—so much better than if we get lost in material technology, no matter how helpful that may be in many ways.

I have been in the wonderful area near Stehekin that Dr. Stedman speaks of. I think we should carefully think about some of the testimony that was in favor of adequate wilderness and what it can mean to us. I was so impressed with the testimony of certain young people, especially that of Beth Bartholomew, at the hearing in Bellingham, when she said she hoped that those making the decision would exercise the same maturity of judgment which they expected of teen-agers!

Let's look forward to the future, for those who come after us!

Olaus J. Murie
Director
The Wilderness Society
Moose, Wyoming

EDITOR:

Concerning Dr. Stedman's excellent article in the January AMERICAN FORESTS, "An Algebraic Approach to Land Use in the Pacific Northwest," a question keeps cropping up in my mind: Why should an unmanaged—"wild"—forest area be more attractive than one which is managed intelligently for optimum perpetual production? Do we still see as "devastated" areas which are today "harvested and reproducing"? Assuming that increasing demands will be placed on our forest lands for both products and recreation, wouldn't we do better to develop respect and enjoyment of wisely "cultivated" natural resources?

Gordon R. Cunningham
Extension Forester
New York State
Cooperative Extension Service
Ithaca, New York

"So Long Voyageur"



Richard W. Westwood

CONSERVATIONISTS everywhere were saddened on Feb. 13 to hear of the death of Richard W. Westwood, editor of *Nature* magazine for more than 30 years. He died of cancer at his home at 4452 Greenwich Parkway, N.W., in Washington, D.C.

Mr. Westwood came to the American Nature Association in Washington in 1923 after working as a reporter for the *Christian Science Monitor* in Boston, first as a state house reporter and then as its conservation specialist.

When *Nature* merged with *Natural History* last year, Mr. Westwood estimated he had read at least 15 million words during his editorship and one of his delights was to "find" some new and unknown author with something to say. These discoveries were high points in his work and last year he presented some of the best writing from *Nature* in his book *This Is Nature*, published by Thomas Y. Crowell Co. Articles from this book have been widely reprinted since. One of these, "So Long Voyageur," by Gerald Movius, was published by Clifton Fadiman in *This Week*.

A hearty individual, Mr. Westwood liked people and he liked to travel. He enjoyed and appreciated good food. To search out and try new restaurants in such cities as New Orleans with the Westwoods and the Harry Radcliffes was always an enjoyable experience.

Mr. Westwood felt very deeply about many conservation issues and on occasion his pen could sting like a wasp. In his latter years he worked especially hard in combatting what he regarded as the "billboard menace." But perhaps his finest work was the encouragement he gave to new and unknown authors and the articles of many of today's authors first saw the light of day in *Nature* magazine. To these people, Mr. Westwood's death will represent the loss of a close personal friend.

Logging Road Handbook

IN 1947, James J. Byrne of the Pacific Northwest Forest and Range Experiment Station, with Roger J. Nelson and Paul H. Googins, U. S. Forest Service, Division of Engineering, prepared a report, "Cost of Hauling Logs by Motor Truck and Trailer."

This popular and useful mimeographed publication, which was revised once in 1956, has been further revised and made available in printed form as USDA Handbook No. 183, "Logging Road Handbook: The Effect of Road Design on Hauling Costs."

I commend this handbook to all interested foresters, engineers, and operators as the most authentic study of the effect of road design on log hauling costs, and a fine complement to Axel J. F. Brandstrom's "Analysis of Logging Costs and Operating Methods in the Douglas Fir Region" (1933) and Donald M. Matthews' "Cost Control in the Logging Industry" (1942).

The new handbook fills a vital need of engineers or others in designing roads to attain the optimum balance between construction and operating costs. The principles described can be used equally well to determine probable hauling costs on existing roads. With the phenomenal progress that has been made in physical methods of road construction, it is appropriate that intensive study be given to logging road design (particularly for the more permanent parts of a system) and its effect on overall costs.

The "Logging Road Handbook" offers guidance to the road designer by vividly setting out the effects of such factors as: favorable and adverse grades, road width, degree of curvature, number of curves per mile, road surface, density of traffic, spacing of turnouts, and visibility on log hauling costs.

Similarly, effects of truck size and horsepower, fuel type, and all types of delays are diagnosed for thoughtful study.—Edward P. Stamm

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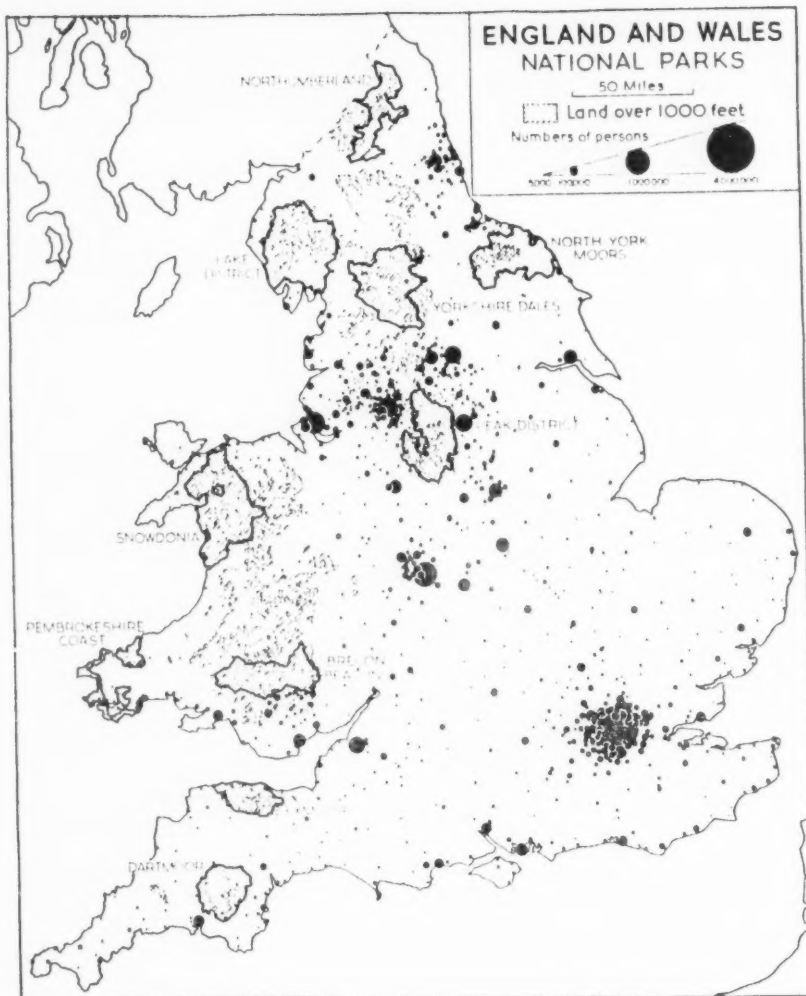


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Colored areas on map indicate the ten national parks in England and Wales

English and American Park Systems Compared by Darby, Wirth, and Goddard

By BETTY KINDLEBERGER

THE national parks systems of England and the United States, both devised to combat a common problem of urban and industrial encroachment on the national landscape, are, nevertheless, basically different in concept. However, each has features which could be profitably utilized by the other, according to speakers at the Resources for the Future forum on Comparative National Parks Policies held last month in Washington, D. C.

Economic and social pressures of each country have been responsible

for the type of national park system developed. In England and Wales, Professor H. C. Darby, Professor of Geography, University College, London, explained, the people do not "own" their national parks. The parks are actually delimited areas within which some control is exercised by the National Parks Commission over economic development in the interest of preserving the region's character. These areas include both private and government properties, as well as villages and towns.

Professor Darby listed two factors

which influenced the development of this type of national park system. "In the first place," Professor Darby said, "there is the small size of England and Wales, and the limited amount of unoccupied and relative wild land. Space for the recreation of some 46 million people has to compete with more strictly economic needs such as mineral-working, afforestation, and water-gathering grounds, to say nothing of agriculture itself. What unoccupied and uncultivated areas there are lie mostly over 1,000 feet above sea-level and, taken together, they amount to about seven per cent of the total area of the country. Even this high land with practically no settlements is in private or semi-private ownership."

He explained that the term "semi-private" refers to "common lands," which are areas subject to common rights, usually for grazing purposes, exercised by neighboring groups of people. These common lands, he said, have been described as "the last reserve of uncommitted land in England and Wales," and are extensively used by walkers and campers, even though they have no legal right of access. "The law relating to these 'commons,'" Professor Darby said, "is extremely obscure and complicated, and they have recently been the subject of an official enquiry. Whatever be the exact status of common-land, it is certainly not that of public domain land from which parks could be created and, in effect, owned by a national authority."

Therefore, British National Parks, as they exist today, include villages and even towns around the margins of upland areas and in their valleys. "It follows," Professor Darby commented, "that any national view of a park system must come to terms with the local life of each park. Both the Dower and Hobhouse Reports (official government studies) fully recognized that the well-being of those who live and work in the parks must always be a prime consideration. Not only farming but rural industries must flourish. As recently as May, 1959, the minister responsible for planning could say that national parks would fail in their purpose 'unless we can carry with us those who have their home and earn their daily bread within the national parks and unless we can so administer the parks that we win their support for the whole idea.'"

Professor Darby listed the second factor influencing national park development as the existence not only

(Turn to page 54)



Washington



Lookout

By ALBERT G. HALL

THE FORESTRY BUDGET, AS PREPARED BY THE Eisenhower Administration, is shown on page 6. It is likely that the funds requested will be increased by the 87th Congress, both for Fiscal Year 1961 and Fiscal Year 1962. A depressed areas program, if enacted, doubtless will call for increased forestry expenditures, especially on national forests, and possibly on state forests under cooperative arrangements. But even if such legislation should fail, it is expected that additional funds may be made available for the national forests in such areas. For Fiscal Year 1961 a proposal has been made for a \$50 million supplemental appropriation for the Forest Service—\$47 million for national forest protection and utilization and \$3 million for land acquisition. The purpose is to accelerate action on the long-range program for the national forests submitted to Congress by the Secretary of Agriculture in 1959. Senators Magnuson of Washington, Byrd of West Virginia, Hart of Michigan, and McGee of Wyoming, who made the proposal also recommend for Fiscal Year 1962 a total appropriation for national forest protection and management of \$135,500,000. The four Senators also recommend increases for the Bureau of Land Management for 1962 of \$16 million over the 1961 appropriation, and for the Park Service an increase of \$28 million.

FORESTRY ANTI-RECESSION MEASURES ARE ALSO

urged by Secretary of Agriculture Orville L. Freeman; the Forest Service has been requested to submit costs and manpower estimates for needed forest improvements and reforestation, especially in depressed areas.

INCREASES IN FOREST RESEARCH FUNDS, AMOUNT-

ing to \$6.5 million above the budget request have been proposed by Senator Stennis of Mississippi. (See page 12) Of this, \$4 million would be for additional research facilities, and \$2.5 million would be for increased research activity in forest and range

management, forest protection, forest products utilization and forest resource studies. Again, the purpose of the increase would be to step up the pace of the long-range program of the Forest Service. The 1962 budget for research is \$20,278,000, an increase of \$1.5 million over the 1961 figure. The 1962 budget figure includes \$1,075,000 for research facilities at four sites: Riverside, Calif., West Thornton, Mass., Gulfport, Miss., and Grand Rapids, Mich. Principal item in the budgeted increase is \$975,000 for a Forest Fire Laboratory at Riverside, Calif. The Stennis proposal would start work on 16 additional facilities in 1962.

PRESIDENT'S ECONOMIC REPORT ALSO STRESSES

natural resources action. In his first economic report to the Congress, early in February, President John F. Kennedy presented a "Program for Economic Recovery and Growth." Among many other things, the President said, "Improvement of our forest resources will require expanded government credit sources for the development of woodland properties, more research on forest management, additional funds for cooperative programs, acceleration of the national forest program, and improvement of grazing resources." He also urged that priority attention be given to "our water resources programs, including flood control, irrigation, navigation, watershed development, water pollution control . . . and water desalinization."

SCHEDULING OF WILDERNESS BILL HEARINGS, BY

the Senate Committee on Interior and Insular Affairs, February 27-28, has given rise to a number of questions, chief of which is, "Why?" The new 1961 Wilderness Bill, introduced by Senator Anderson of New Mexico and others, is a more moderate bill than were those introduced in previous Congresses, but it still proposes a wilderness system into which would be blanketed not only the present wilderness areas (Text continued on page 51)

FORESTRY IN THE FEDERAL BUDGET

(Fiscal Year Ending June 30, 1962)

	1961 Estimated	1962 Budget
U. S. FOREST SERVICE		
Forest Protection and Utilization		
Timber sales administration and management	\$ 21,595,000	\$ 22,295,000
Reforestation and stand improvement	4,451,000	6,151,000
Recreation and public use	15,180,000	16,580,000
Wildlife habitat management	1,718,000	2,118,000
Range management	3,859,000	4,059,000
Range revegetation	1,911,000	2,111,000
Range improvements	2,388,000	2,588,000
Soil and water management	2,151,000	2,651,000
Mineral claims, leases, etc.	5,181,900	5,582,000
Protection—fire	16,051,000	18,051,000
Structural improvements	9,802,000	10,479,000
Rehabilitation of burns	1,050,000	1,050,000
Fighting Forest Fires	5,000,000 ^a	5,000,000
Insect and Disease Control	7,251,800	7,402,000
Acquisition		
Weeks Act	100,000	100,000
Klamath Reservation ^b
Superior National Forest	750,000	250,000
Special acts	10,000	10,000
Research		
Forest and range management	8,737,000	8,947,000
Fire control	1,029,000	1,156,000
Insect	1,165,000	1,465,000
Disease	980,000	1,130,000
Forest products	3,527,000	4,097,000
Forest survey	1,583,000	1,583,000
Economic	682,000	825,000
Construction, research facilities	1,075,000	1,075,000
Roads and Trails—construction and maintenance	30,000,000	35,000,000 ^c
Access Roads—purchase	1,000,000	1,000,000
Indefinite Appropriations	(43,708,000)	(36,708,000) ^d
State and Private Forestry		
Forest fire control	10,120,500	11,120,500
Tree planting	296,000	296,000
Forest management and processing	1,554,000	2,054,000
General forestry assistance	438,300	538,500
TOTAL U. S. FOREST SERVICE	\$160,636,500	\$176,764,000^a

DEPARTMENT OF THE INTERIOR

Bureau of Land Management:

Management of Lands and Resources (Total)	(\$ 28,371,000)	(\$ 30,342,000)
Forestry	6,035,000	6,674,000
Soil and moisture conservation	5,218,000	4,307,000
Fire suppression	400,000	400,000
General administration	1,651,000	1,877,000
Cadastral surveys	2,902,000	3,570,000
Other	12,165,000	13,514,000
O & C Lands (Total)	(11,752,000)	(9,200,000)
Construction and acquisition—roads	10,830,000	7,850,000
Reforestation and improvements	672,000	1,050,000
Operation and maintenance (roads)	250,000	300,000
Other access roads; buildings; recreation	663,000	750,000 ^f
Range improvements	863,000	917,000 ^g
TOTAL BUREAU OF LAND MANAGEMENT	\$ 41,649,000	\$ 41,209,000
Bureau of Indian Affairs (Forestry and related items only):		
Forest and range management	\$ 3,246,000	\$ 3,470,000
Fire suppression	140,000	140,000
Road construction and maintenance	2,839,000	2,874,000
National Park Service (Forestry and related items only):		
Forestry and fire control	\$ 1,033,000	\$ 1,140,000

TENNESSEE VALLEY AUTHORITY

Watershed protection and improvement only	\$ 1,295,000	\$ 1,420,000 ^h
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^a A supplemental estimate of \$31,500,000 is proposed.^b A supplemental appropriation of \$68,716,691 will be sought to provide for purchase of the Klamath Indian Forest Lands.^c In addition about \$11,370,000 will be available from road and trail fund (from timber sales). Also add \$14,170,000 to 1961 figure.^d Includes school fund payments, slash disposal refunds, payments to states, etc.^e In addition, \$25,667,000 will be available by transfers from other agencies and accounts: \$1,205,000 from watershed protection program, \$2,156,000 from flood prevention program, \$17,000 from Great Plains program administered by Soil Conservation Service, \$140,000 from Agricultural Conservation Program, \$149,000 from Soil Bank program, and \$22,000,000 from trust funds. Comparable total for 1961: \$24,985,000.^f Includes \$200,000 for buildings.^g From grazing receipts.^h Divided between forestry and watershed projects.

Editorial — New Light on an Old Problem

THE Board of Directors of The American Forestry Association on Feb. 17 resolved to adhere to its previous action of a year ago urging that Congressional action on any wilderness bill be deferred until the Outdoor Recreation Resources Review Commission has an opportunity to submit its report to the President. This report is due in a few months. At the same time, the board directed its attention to S. 174, the new wilderness bill introduced by Senator Clinton P. Anderson of New Mexico. Hearings were held on this bill the last of February before the Senate Interior and Insular Affairs Committee which Senator Anderson heads.

In the board's judgment, this is the best wilderness bill yet. As Senior Board Member Karl T. Frederick of Rye, New York, and the board's legal adviser, commented, "There is scarcely any comparison between this bill and earlier versions we examined." Other members concurred. This became even more evident when members explored the bill from the standpoint of drafting one of their own and discovered they agreed with about 90 per cent of the language therein.

For the benefit of readers who do not follow these affairs on a day to day basis (this is the fifth year on wilderness), Senator Anderson is a proven friend of forestry. While he did not endorse earlier versions of the Wilderness Bill (as was the case with many of us), his interest in wilderness is well known and he numbered the late Aldo Leopold as one of his personal friends. The American Forestry Association has reason to be grateful to Senator Anderson for past services, particularly for his help in achieving mining law reform that is freeing millions of national forest acres for multiple use management. Consequently, any Anderson conservation proposal will receive careful consideration in this quarter.

In calling on Senator Anderson's administrative assistant on the eve of AFA's board meeting, staff members were told that the Senator believes the time has come to fish or cut bait on the wilderness matter. He said the pressure for action has become heavy, and that we can vouch for ourselves. He said further the Senator is of the opinion there will be little in the forthcoming ORRRC report that will greatly alter the existing wilderness status quo one way or the other. That may be true. On the other hand, the taxpayers are paying their money for this study and it would seem apparent they are entitled to a look at it before any major action is taken. At least three phases of this study have to do directly with wilderness. As long as there is even an outside chance new facts might shed more light on wilderness preservation and since a report is due in only a matter of months, there would appear to be little to gain by too hasty action. As for the pressure, AFA has had some of that, too, and it is fully capable of enduring a whole lot more if a little judicious waiting might, in the end, serve the public interest.

At the same time, we can readily see why some people might consider this AFA position somewhat academic. One congressman informed us that in all probability we will have time to study and write a

Ph.D. thesis on the ORRRC report before the House takes action on any wilderness bill. If so, this would appear to be in line with the thoughts of AFA members who are serving with Senator Anderson on the commission and others in lesser capacities who have asked the association to request wilderness bill deferment until their studies are completed. That the association would not willingly pull the rug out from under its own members should be understandable to all.

At the same time there does not appear to be any reason to stop work on what is already a much improved bill and one which can be made even better. On invitation of the Senate committee, AFA's Chief Forester Pomeroy on Feb. 27 suggested that two important segments of the bill need further clarification. The first pertains to the implied intent of a proposal which brings together in one system three agencies which were created with divergent basic objectives—the National Park Service, Forest Service and the Fish and Wildlife Service. AFA believes the functions of these three bureaus are separate and should remain so. Accordingly, it recommends that the title of S. 174 be amended to read "An Act for the Preservation of Wilderness" and that all references to the establishment of a system be deleted.

In support of this suggestion the association points out that the preservation of wilderness has values far beyond those of any system created by man. AFA believes that wilderness is where you find it these days so why not recognize wilderness preservation everywhere including junior wilderness areas in the East, both "untrammelled" and "slightly trammelled" as the case may be? In this way the Congress would be making a deserved bow to dozens of organizations, both large and small, that are making a real effort along these lines both in and out of the government.

Secondly, the areas concerned on the national forests are the wild, primitive, wilderness and canoe areas. In most instances, the wild and primitive areas were set aside pending their examination as to whether they meet wilderness qualifications. The Anderson bill would blanket all of these areas into the overall wilderness pattern under Congressional protection and then provide a sort of appeals route in reverse on how they can be removed from that pattern if they fail to come up to wilderness standards. While this appeals route provides the necessary safeguards, AFA believes both the bill and the implementation of it would be more effective if it set up a policy of orderly "inclusion" instead of the present proposed policy of piece-meal "exclusion." This, in the opinion of AFA, would prove more positive and effective, providing the mechanics of examination were placed on a definite timetable.

AFA believes that these are basic and important proposals and that they should receive careful consideration. In the event they are met, AFA's president is empowered to call a special meeting of the board on short notice to reconsider the whole matter.

Meanwhile, one thing we should all remember, it seems to us, is a comment recently made by Karl T.

(Turn to page 51)



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By NICHOLAS T. MIROV

THE FACE OF THE COUNTRY

YOUR jet plane leaves Boston late in the afternoon; your destination is San Francisco. You fly West, catching up—not quite—with the setting sun, and you expect to be home between nine and ten p.m., Pacific Standard time. Within the short span of five or six hours the country will unfurl beneath you its rivers, mountains and plains like a gigantic map. Your plane climbs rapidly and gains speed. Soon you leave the urban Atlantic Coast; you look down and there it is: the immense and lovely country called the United States! All for you to explore! You glance around quickly. You orient yourself easily. On your right is North—New England with its Luigi Lucioni landscapes; still farther—pine and spruce forests of the North. On your left is South; way down there are the rapidly growing “piney woods” of Georgia and Florida, Okefenokee Swamp, and the Everglades. Swiftly you cross the state of New York and Lake Erie, and now you are over Michigan. You are already relaxed and your thoughts wander leisurely in your mind in an easy and rambling manner.

Originally, Michigan was covered with primeval forests of white pine and Norway pine. It comes to mind that in Europe our white pine is

called Weymouth pine and Norway pine is named after the town of Norway, Maine (Pop. 3,811). At the beginning of the 20th century the virgin forests had already disappeared in Michigan. But man, who had destroyed the forests of that state, amply repaid his debt to the country.

Here is the evidence. Beneath, you see orderly rows of white pine and Norway pine scattered over the land. They are of different ages—like school children of different grades. Those velvety-green patches are forest nurseries—just like nurseries for children of pre-school age. Some of those nurseries, probably the oldest ones, are maintained by the Forest Service, a pioneer in this sort of thing; others are owned by the state, by universities, by lumber companies; some are commercial nurseries, selling their stock to farmers for profit. From the air it appears that man has done an enormous reforestation job in Michigan; and you know that he has done well also in many others parts of the country. That immense body of water on your right must be Lake Michigan. That something, unbelievably big, shrouded in smoke, is Chicago—no doubt about that.

The plane speeds westward. You

Dark green strips noted around farmsteads in Nebraska are shelterbelts





Orderly windbreaks bound the agricultural squares on a farm in Texas. The trees for windbreaks, now 17 years old, were planted under supervision of the Forest Service



Fertile fields in Illinois where much of America's primary wealth is produced

are flying now over the fertile agricultural states of Illinois and Iowa, where rich soil, warm sun, and hard, hard work create the primary wealth of America. The land beneath is divided into six by six mile squares, called townships, and each township is subdivided into sections of one square mile (640 acres) each. A section of land is the basic unit of agricultural endeavor. It is revealing to see from the air how little agricultural land is allotted to the farmhouse and the outbuildings, and how much land has to be cultivated by the farmer to make a living.

Strips separating the sections are clearly visible from the air; they serve as communication lines between farmsteads and near-by towns; they are the country roads where school buses travel and where your mail is delivered when addressed: c/o R.F.D. All section lines run north and south, and east and west.

Only occasionally the meridional lines do not coincide (causing annoying right-angle kinks in the rural roads), partly because the surveyor's plane-table is flat and the earth's surface is round, and partly because, in the old days, surveying instruments were not too accurate.

The squares of agricultural land expand beyond the horizon; green rectangles of young corn, bluish-black patches of fallowed soil . . . Quite often a linear pattern of agricultural land is disturbed by small streams meandering through the country in their curious, twisted way. Why, you wonder, don't they flow straight? Their watercourses are marked by dark green, sinuous ribbons of trees—cottonwood, elm, oak, walnut, hickory, ash. Occasionally you cross large rivers with their sweeping bends. You are glad you are able to recognize them and you greet them by name: the Illinois, the Mississippi, the Missouri. You know that at its confluence the Missouri has travelled 2,466 miles from its source while the Mississippi has come only 1,171 miles. But at the confluence the Mississippi contributes more water than the Missouri.

Here and there an unexpected hillock interferes with the orderliness of the roads. They don't know what to do. They turn this way and that to find an easy grade, and they attempt to go around the hill rather than over it. On the other side of the obstacle they assume again their civil engineering correctness. Cultivation on the slopes of the hill is also disturbed. The furrows do not run in straight lines, but follow contours of the slope, often creating

a grotesque, abstract design.

Now you are over Nebraska. Those dark green strips around the farmsteads are shelterbelts, planted some 30 or 40 years ago by the Forest Service. They were designed to protect the fields from dry winds, and to preserve moisture in the soil. Here man planted forest trees where trees never grew before. Here there is not enough rainfall to sustain eastern hardwoods, but by selecting drought-resistant trees from other parts of the world, foresters created these orderly green stripes, several rows across, of small Siberian pea-shrub (*Caragana*, a nitrogen provider) in the outer rows and elms, cottonwoods, and other tall trees in the middle. Those dark green spots in some shelterbelts must be Scots pine, an all-purpose tree of the Old World. It grows from Turkey to Norway and from Spain to the Pacific Coast of northern Asia. Very little of it is found in Scotland.

Or, again, those dark foliage trees might be redcedars. Really, they are not cedars, but junipers. You know, of course, that when we have difficulty in naming conifers we always call them cedars. *Libocedrus*, *Thuja*, *Chamaecyparis*, and this *Juniperus virginiana* are all cedars to us. It occurs to you that perhaps Cedar of Lebanon (*Cedrus libani*, a true cedar) has something to do with our love of that name. *Pinus cembra sibirica*, covering the plains and mountains of northern Asia, also is called cedar by the people there, and probably for the very same reason.

Once I looked over these Nebraska shelterbelts, not from the air, but from the ground, climbing across the ditches and crawling under wire fences. I noticed that when the farmer was personally interested in survival and growth of his trees, the shelterbelts were thriving and lush. And I remember the pride those Nebraska farmers had in their shelterbelts! One farmer said when the elms grew big enough he fixed a swing between two trees for his children. Another man said before the shelterbelt was planted, birds would fly straight through from the south to the Black Hills. "Now the birds stop here and nest in my trees." Perhaps it is not that simple, but it sounded wonderful. Still another farmer claimed that his shelterbelt was screening traffic noises from the near-by highway.

Gradually the neat pattern of the land changes. The terrain becomes

rougher. The hills begin to show nasty scars of erosion; from above these scars look like enormous, dry, brown-gray fern fronds lying over the cultivated land. More and more contour farming . . .

Presently signs of cultivation disappear completely. You are flying over the plateau-like, treeless Continental Divide. On your left are high ranges of the American Cordillera (Rockies sounds better to me). On your right, to the north, lie the grazing lands of Wyoming. I remember, one thunder-stormy summer I did some work in a sweeping green meadow in the Laramie Mountains, with Laramie Peak itself (elev. 9,020 feet) always in the background. And in the midst of that emerald valley, high in the mountains was nestled a little church, with bell ringing every other Sunday—probably the nearest church to the heavens in the whole state of Wyoming! This is the real West! Towns here are not called Martha's Vineyard, or Santa Monica; they are Gray Bull and Spotted Horse.

You fly fast. You are now over the land of the Mormons. You cross many mountain ranges, some for-

ested on their tops; others bare and rocky. Between the ranges lie irrigated, fertile valleys with their unbelievably green fields and neat little towns of Parawan, Panguitch, and Paragonah; Moab, Ephraim, and New Harmony. In these communities, irrigation ditches run along the main streets which are planted on both sides with silvery *Eleagnus* trees, called Russian olive. The tree is not an olive, nor is it Russian; it is a native of central Asia where it is called Djida and its fruits are good to eat.

There are, below you, also, large stretches of desert: Great Salt Lake Desert, Sevier Desert, and farther south, Escalante Desert with its Indian petroglyphs on weathered rocks; and places called Beril, Gold, and Sulphurdale. Once an old man in Panguitch told me many stories of the past, of the people who settled in this remote part of the continent, of the hardships they endured, and of the glory of their victories. You look down and say to yourself, "What sustained these people?" From your school books you know something about the Mormons, but you feel that this

something is not enough. You survey the land beneath once more and repeat again and again, "What sustained them? . . . What sustained them?"

Your imagination carries you farther south where the Colorado joins the Green River and continues its rush through the Grand Canyon towards the Gulf of California. Nowadays the Colorado is no longer a free-flowing stream, such as the one described by Élisée Reclus, in his "Histoire d'un Ruisseau" (The Story of a Stream). Not any more. Down there, where the river forms the boundary between Arizona and Nevada, and later, between Arizona and California, man has built dams to harness the wild stream: Hoover Dam, Davis Dam, Parker Dam. From the air the once untamed Colorado now looks like a gigantic string of beads; expansions of the reservoirs alternating with constrictions at the dam sites. Truly, man has done great and constructive work here.

Now you are over the state of Nevada—ranches cling to the bases of the mountains where occasional

(Turn to page 57)

In the East the rolling hillsides are covered with trees, providing protection for the vital watersheds





Sen. J. C. Stennis, Miss., introduced bold plan for expanded research

FOREST scientists working for the future of their country deserve a better fate than their work in sheds, seated on nail-kegs, and using boxes for desks, Senator John C. Stennis, of Mississippi, told his Senate colleagues on January 31 in urging a \$6,500,000 boost for national forests research as an emergency measure.

In an address that won plaudits from colleagues on both sides of the aisle from every section of the nation, Senator Stennis, one of forestry's foremost champions of research, also urged that the Program for the National Forests introduced last year be put on schedule as rapidly as possible. To do so would mean the Congress must appropriate \$38 million more than the \$14,200,000 proposed in the budget for fiscal 1962.

Last fall, at the 85th Annual Meeting of The American Forestry Association in his native Mississippi, Senator Stennis said "the intensity in development and use of our forests I am predicting will require a body of knowledge we do not yet possess. But here, too, with prompt, concentrated effort and systematic study, I am confident we will have the knowledge to get the job done. We are certain to benefit, in a tangible and positive way, from this scientific research."

Last month on the Senate floor,

This Month in the Senate

"TAKE THE SCIENTISTS



Sen. R. C. Byrd, W.Va., urged \$50 million increase in forest research funds



Sen. M. R. Young, N.D., endorsed Plains Shelterbelt Laboratory for his state



Sen. G. W. McGee, Wyo., saw need for additional funds for watershed research

AMERICAN FORESTS

Senator Stennis spelled out what he considers to be the immediate and first steps to be taken in obtaining the desired "body of knowledge." His report to colleagues was based on first hand observations made all over the country as well as in the south.

Program "Totally Inadequate"

These on-the-ground look-see's, which he heartily recommends to his House and Senate colleagues, convinced him that present research facilities are "totally inadequate."

The Stennis address was applauded by a number of senators and particularly by Senators Byrd and Randolph of West Virginia. At the suggestion of The American Forestry Association some months ago, Senator Randolph has already acted as a catalytic agent in what promises to be a successful effort to launch a forest landownership study in the state that would point up the great recreation and timber potential of a state close to large centers of eastern population. Senator Randolph has always been a loyal supporter of forestry and national forest programs.

Like Senator Stennis, Senator Byrd is apparently concentrating on research itself. In accord with the Stennis proposal to set up a watershed management research unit at Parsons, West Virginia (see chart), the

Senator apparently feels, nevertheless, that this proposal is too modest. Senator Byrd's press secretary, Lewis Freed, informed AMERICAN FORESTS late in February that the proposed appropriation for this unit should be boosted from \$75,000 to around \$240,000.

However, what Senator Byrd is really interested in is a major research installation, similar in size to the Forest Products Laboratory at Madison, Wisconsin, that would really delve into the whole field of timber utilization with emphasis on new market outlets for second growth eastern hardwoods. While Mr. Freed did not place a price tag on this proposition, he did mention the possibility of employing at least 30 full time technicians and at least 30 supplemental employees—with the research work to be carried on in conjunction with an experimental forest. Taking a calculated guess, this would cost between 50 and 100 million dollars.

Contacted on this proposal the Forest Service said it would be in no position to comment for publication until a careful look-see had been carried out on the ground and both Senator Byrd and Dr. Ralph Marquis, of the Forest Service, were scheduled to make a West Virginia inspection trip on Feb. 24, 25 and

26. Although six possible locations were mentioned for the proposed lab, a location at Beckley, West Virginia, was mentioned most often here in Washington.

Interest in this hardwood utilization unit was continuing to grow as AMERICAN FORESTS went to press as it is tied in directly with the so-called small woodland management problem in the eastern states. How to create market outlets for second-growth hardwoods is considered one of the key question marks in this case.

It was also becoming apparent last month that new interest has been kindled in this particular phase of forest management. Whether this is due to promotional activities or belt tightening on the part of many landowners, or both, it is difficult to say. Of interest is the fact that an AMERICAN FORESTS article on the Tree Farm movement that was reprinted in the January issue of *Reader's Digest* has already resulted in a response of 10,000 letters of inquiry to the sponsoring agency, American Forest Products Industries, Inc.

Other Senators who indicated they were in full support of the Stennis Forest Research bandwagon included Senator Scott, of Pennsylvania, who supported the Warren-Kingston Research Center; Senator Kefauver, of

OUT OF THE SHEDS"

Forest research—Budget estimate, fiscal year 1962 compared with increase needed to reach 2nd-year level of program for the national forests

Forest Research	Approximated, fiscal year 1961	Budget requirement, fiscal year 1962	Budget increase, fiscal year 1962	Additional increase required to reach 2nd-year level for national forest program
Forest and range management research	\$ 8,737,000	\$ 8,947,000	\$ 210,000	\$ 1,090,000
Forest protection research.....	3,174,000	3,751,000	577,000	623,000
Forest products utilization.....	3,527,000	4,097,000	570,000	530,000
Forest resources research.....	2,265,000	2,408,000	143,000	257,000
Subtotal, research program.....	17,703,000	19,203,000	1,500,000	2,500,000
Construction of research facilities.....	1,075,000	1,075,000	—	4,000,000
Total for forest research.....	18,778,000	20,279,000	1,500,000	6,500,000



Sen. T. C. Kuchel, Calif., fully endorsed Sen. Stennis' forestry proposals

Sen. J. Randolph, W.Va., claimed expanded forest research imperative need



Sen. Maurine Neuberger, Oregon, whose state would benefit from new laboratory



Tennessee, for the Forest Soils and Silviculture Laboratory at Sewanee, Tenn.; Senator Young, of North Dakota, who spoke for a \$130,000 laboratory in connection with the forestry school at Bottineau, N. Dak.; Senator Hickey, of Wyoming, for a \$150,000 research unit at the University of Wyoming; Senator Neuberger, of Oregon, who praised the work of the Bend, Oregon, Chamber of Commerce in working for a \$450,000 program for silviculture and wildlife habitat management at Bend; Senator Gruening, of Alaska, who spoke for expanded research opportunities in the new state; Senator Hart, of Michigan, who said it was largely due to the Mississippian's efforts that research work was expanded in his state; Senator Kuchel, of California, who declared the Stennis program represented one sound way pointing to the rehabilitation of burned over California acres; Senator McGee, of Wyoming, who said that Senators Magnuson (Wash.), Byrd, Hart and he, had already written the President and other leaders urging supplemental research appropriations for the Forest Service and the Bureau of Land Management; and Senator Randolph, West Virginia, who urged a general build-up of national forest resources in his state.

Excerpts from Senator Stennis' address follow:

"Mr. President, about a year ago, I addressed the Senate concerning the forestry program which had been submitted to the Congress the previous year by the Department of Agriculture and its Forest Service. It is a program to strengthen and promote the intelligent use of our nation's forest resources and to move steadily along a planned course to achieve these goals.

"The amount of money for the forestry and research construction program, including funds for the research facilities to carry on this essential work, at the time the report was presented, was 13 times the amount that we were then providing, and at that time the money that was being expended for research, omitting construction, was $4\frac{1}{2}$ times the amount then being presented. Those figures graphically illustrate the continued neglect—from year to year and from decade to decade—toward one of our greatest resources, if not the greatest, that we have.

"A year ago I referred particularly to how the 181 million acres of national forest might be put to work more completely, providing for the

timber, forage, water, wildlife, and recreational needs of the people.

"I spoke also of the research required to put a sound scientific basis under the protection, management, and utilization of these valued public resources, as well as under the entire forestry resources of the country.

Program Not In Schedule

"Unfortunately, this fine program with its financial requirements amply spelled out for the period of 5 years, has not been adequately provided for during the first two years of the plan. The budget for fiscal year 1962, just released shows an increase of \$14,200,000 to the Forest Service for this program. This is encouraging, of course, but \$52,300,000 is needed to bring the program up to the necessary level of its second year of the 5-year plan. To do so will directly add to the Treasury of the United States, prevent fire and pest losses, and benefit greatly the development of all the varied resources of forest lands. Therefore, I heartily endorse the increase of \$14,200,000 in the current budget. Further, I advocate the added \$38 million being provided as rapidly as possible in order to bring the program to full schedule.

"The forestry research projects, which are part of the program for the national forests, are of special interest and concern to me. They are a relatively small part of the whole national forest program but in my judgment they are an important and vital part. The 1962 budget increase for this research over what was made available last year is only \$1.5 million, whereas the increase should have been \$8 million in accordance with the level for the second year as the Department of Agriculture outlined in its program for the national forests. I wish to expand in some detail on just what this forestry research part of the overall program requires.

"This research program, first presented to the Congress in 1959, provides for an orderly increase of research activities and the building of research facilities to achieve in the next few years a balanced attack on the most important resource problems.

"The program would aid in the development of national forest timber, forage, water, wildlife, and recreation. It would benefit equally the forest lands operated by other federal agencies, small private owners, large industries, and the states.

"Some progress has been made in building up research financing to the levels which this carefully developed

plan would require. Nevertheless, the program has fallen behind the annual rate of growth projected by the Department of Agriculture.

"One table on these pages shows where we stand with respect to reaching the second-year level of this important research program. I propose that this worthwhile program be brought to planned financing by adding \$8 million to the research budget of the Forest Service instead of the \$1,500,000 as proposed by the budget for fiscal year 1962.

"This addition would include \$2,500,000 for research studies of forestry problems and \$4 million for construction of badly needed research laboratories and related facilities.

"I have visited some of the programs that are already in progress and find totally inadequate facilities to carry on this fine work. I have found some of the most highly rated scientists in the nation—men of great talent, training, and learning—

working in sheds, almost sitting on nail kegs, and using boxes for desks in carrying on this highly important work that reaches far into the future in its possibilities with reference to our forests and forest products.

Benefits of Research

"The many benefits that flow from a well-conceived program of basic and applied research in forestry hardly need reviewing here, but I want to mention a few of the more significant ones.

"Of these benefits, the tree-planting program, in particular, has my deepest concern and interests. I have a deep personal knowledge of this vital phase of forestry research.

"We have in this country 50 million acres of idle land capable of growing trees. Private, state, and federal tree-planting programs have skyrocketed and we now plant more than 2 billion trees a year. Production of these healthy small trees de-

pends on new methods of tree culture, disease control, and other technical knowledge.

"Just last October, I visited a forest genetics laboratory where scientists are doing amazing things with pine trees. They are selecting and breeding superior species that will yield more pulp, grow faster, and resist the ravages of diseases and insects. I recently learned that a type of slash pines has been bred that will yield four times as much pine gum for naval stores as run-of-the-woods trees.

"Research helps forest land managers in finding new methods to control pests, grow and utilize timber, handle domestic livestock grazing, produce better cover and food for wildlife, control fires, improve water supply and reduce erosion, market timber products more readily and at greater profit and utilize recreational opportunities more effectively.

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Forestry Research Construction CONSTRUCTION INCLUDED IN BUDGET

LOCATION	RESEARCH FACILITIES	ESTIMATED COST
1. Riverside, Calif.	Forest Fire Laboratory	\$ 975,000
2. West Thornton, N.H.	Forest Watershed Management Laboratory	50,000
3. Gulfport, Miss.	Insectary for insect research	25,000
4. Grand Rapids, Mich.	Greenhouse and headhouse	25,000
TOTAL FOR PROJECTS NOW IN BUDGET		1,075,000

ADDITIONAL CONSTRUCTION PROPOSED

5. Bozeman, Mont.	Forest and Range Management Laboratory	\$ 175,000
6. Wenatchee, Wash.	Forest Soils and Hydrology Laboratory	300,000
7. Flagstaff, Ariz.	Ponderosa Pine Silviculture Laboratory	175,000
8. Moscow, Idaho	White Pine Disease and Silviculture Laboratory	300,000
9. Fairbanks, Alaska	Forest Protection and Silviculture Laboratory	350,000
10. Laramie, Wyo.	Range and Watershed Management Laboratory	150,000
11. Bend, Ore.	Silviculture and Wildlife Management Laboratory	150,000
12. Bottineau, N. Dak.	Plains Shelterbelt Laboratory	130,000
13. Warren, Pa.	Forest Recreation and Wildlife Habitat Laboratory	200,000
14. Parsons, W. Va.	Watershed Management Laboratory	75,000
15. St. Paul, Minn.	Regional headquarters office and laboratories for Lake States Forest Experiment Station	1,250,000
16. Madison, Wisc.	Preplanning for expansion of Forest Products Laboratory and site acquisition	300,000
17. Sewanee, Tenn.	Forest Soil and Silviculture Laboratory	125,000
18. Crossett, Ark.	Loblolly Pine Silviculture Laboratory	50,000
19. Olustee, Fla.	Greenhouse, insectary, and other minor research facilities	70,000
20. Alexandria, La.	Forestation and Protection Laboratory (remodel and equip building acquired from surplus)	200,000
TOTAL FOR ADDITIONAL CONSTRUCTION		4,000,000

CONSERVATION

On the East Coast

By ADRIAN GONZALES



Jackson Weaver, WMAL, Washington, D.C., has been Smokey's "voice" ever since the bear's adoption as fire prevention symbol



Another Washington, D.C. personality, TV star Pick Temple, has been honored for on-the-air work for forest fire prevention

MILLIONS of dollars of television and radio time, talent and facilities were expended during 1960 in behalf of the conservation movement in the United States.

In one example, nearly fourteen million dollars was devoted by five television stations to the telecasting of "public affairs" programming in the past year. These five stations, owned and operated by the Columbia Broadcasting System, aimed a heavy portion of this expenditure to alerting Americans to the necessity of conserving the nation's land, forests, water supply, and wildlife.

There are 557 other television stations in the country also producing programs on conservation which range from hour long documentaries to spot announcement warnings alerting their own communities to conservation of their natural resources.

A recently published report by the Television Information Office provides details of many of the programs telecast in behalf of conservation during 1960. Each of the programs had a basic message—improve, conserve, add production and enjoy the results.

In the nation's capital, headquarters of many of the leading forces in the conservation movement, television has presented enthusiastic cooperation over the years. WRC-TV (NBC) contributed heavily through a series of programs and announcements titled "Our Beautiful Potomac." This award-winning endeavour was active in getting municipal and state governments to tighten the laws regulating waste materials and building codes which have polluted the Potomac River in the vicinity of the nation's capital. The TIO report adds that although the series originally crusaded for the abatement of pollution, it has broad-

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FOR CHILDREN

On the West Coast

By RICHARD PARDO

DOES conservation education have a place in a children's television program? Don McCune, skipper of Seattle's KOMO-TV program "The Capt. Puget Show" gives a definite "yes" to that question.

To prove that he isn't just talking through his nautical headgear, McCune embarked during 1960 on a broad and imaginative program in cooperation with the Keep Washington Green Association. The aim was to bring the conservation and forest fire prevention message to the young television audiences of the Puget Sound region.

Drawing from his own outdoor background, and with full cooperation of the area's forestry and conservation agencies, McCune made resource education a regular part of his program.

No avenues of presentation were overlooked in bringing the resource story to the young viewers and their families. Beginning early in the spring, with a Smokey Bear costume as a prop and the whole outdoors as a setting, Puget (McCune) and Barney Furseth of the Keep Washington Green Association filmed a series of "Smokey Bear in Action" features. In each case, Puget was involved in an outdoor trip or an adventure that could conceivably happen to the youngsters in his audience.

A pack trip through the Cascade Mountain high country by horse, a visit to a state park, and a trip to Mt. Baker's famed Coleman Glacier were among the adventures. In each case, the costumed figure of Smokey Bear would be on hand to welcome Puget as he arrived and to guide him on the trip.

To make certain that the character of Smokey Bear was not misused, at no time was he given a voice or placed in a position not representative of his outdoor home.

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As "Captain Puget" on Seattle, Washington's KOMO-TV, Don McCune makes resource education regular part of his program



In filmed adventure feature at Mt. Baker National Forest, Smokey and Capt. Puget pointed out importance of watersheds



1.



2.



3.



5.



4.

Smokey's

1. Smokey enjoyed visit with 1961 Tournament of Roses Queen Carole Washburn

2. Ted Repplier (center) president of the Advertising Council which runs the Smokey campaign, presents Smokey award to Don Belding (right) of Foote, Cone & Belding, the advertising firm that handles the Smokey campaign. At left is president of Los Angeles Ad Club

3. Backstage at Madison Square Garden, the famous Sons of the Pioneers rehearse their radio program on forest fire prevention for nationwide presentation

4. Albert Staehle was the artist-creator of "Smokey," nationally recognized symbol for forest fire prevention



6.



7.



8.

20th Year

5. Vaughn Monroe and his family welcomed Smokey on "location" during the filming of movie "Vision in the Forest"

6. Boy Scouts cooperate with Smokey in spreading forest fire prevention message

7. Cowboy star Roy Rogers records radio announcements on forest fire prevention

8. Smokey's headquarters in Washington is always jammed with mail. He receives 5,000 cards and letters each week

9. Movie star Karen Steele of Warner Bros. calls attention to Smokey poster



9.

Land of Falling Water

By DON CARLOS MILLER

IT is a dark land and shaded; the forests grow deep and quiet. But in the quiet there is the far sound of a rushing. In the tranquillity it rises like a distant speeding train, or a hurried gust of wind through pillared trees.

Unlike train or wind, though, the sound lingers; it lingers because it is a part of the land, as much so as the trees, the shadows, the flickering patches of sunlight. In fact, it is of even greater importance to this land than these others, for this is the land of falling water and the rushing is the song of the land.

This is Silver Creek Falls State Park in the Western Cascade Range; it is just 26 miles to the capital of the state of Oregon. The rolling hills with their farms tilled and clean—circular rows of plowed land or circular rows of cut hay—are below, hid now by the forests of fir, alder and cedar. Above and beyond the white peaks of the lordly Cascades reach at the sky, resembling the bared claws of wild animals held up in the sunlight.

Among these is Wildcat Ridge. And on its slopes South Silver Creek has its beginnings.

The creek seeps through the forests and grows, spring by spring, till it is a goodly stream. The forest shadows deepen and the water comes to a long pool. There is a roiling turbulence in the pool; it is a dark turbulence, foreboding and unhurried—a drama unfolding. Slowly, slowly the water approaches the brink—there are no rapids here, or sign of ultimate falling. This is done quickly in one swift leap. The stillness is gone and the rushing sound becomes a roaring and the roaring fills the forest, fills it and fills it incessantly.

This is South Falls, the most beautiful drop in Silver Creek Falls State Park. Here, in a small area, there are 14 waterfalls, the greatest concentration of active waterfalls in the United States, for all are within the bounds of the 8,259 acres of the park.

While none of these are as high or spectacular as those found in Yosemite, there is a quality of beauty here that is non-existent in other waterfall regions. Perhaps Oregon's Columbia River gorge comes nearest to duplicating this particular beauty. This has to do with the forests, the multi-colored foliage of huge and gorgeous ferns, of vine maple, of

AMERICAN FORESTS

Douglasfir and Grand fir, of cedar and alder, hemlock and broad-leaf maple, of yew and chinquapin, Madronas and quaking aspens, of countless flowering plants.

Here in this world of growing things, where the shade hangs deep upon the basalt cliffs, South Silver Creek drops in a shimmering silver ribbon almost 200 feet and soon drops another 100 feet before its meeting with North Silver Creek. On the latter stream there are five falls, all breath-takingly beautiful and all different. Two tributary creeks join North Silver Creek and each has a falls. Beyond these, after North and South Silver Creeks unite there are five lesser falls.

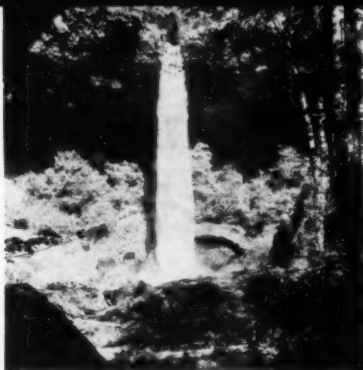
A wide and protected trail travels along the streams for a distance of approximately four miles, giving easy access to all the major falls. This trip journeys through a paradise of bowered solitude—of rushing water, of whispering trees, of still pools. The time consumed in making this pleasant excursion varies greatly with individuals, being anywhere from 2½ hours to 5 hours, depending partly on vigor but largely upon the intervals spent enjoying this sight or that. And for the "shutter-bug" this easy trail can become a full day of wonderful adventure.

For those who do not care to hike the full distance there are three short trips to Winter Falls, to North Falls and to South Falls. The latter can be seen by taking only a few steps. But to enjoy it fully there is a circuitous route that takes one down and in back of the falls, then along the stream to a bridge from which point the falls is seen at its best. From there the ascent to the top is made quickly. Even small children have no difficulty in making this journey and they enjoy the novelty of being behind the falls.

This is a distinct feature of the park—both North and South Falls can be seen from behind. At North Falls the cavern is a 200 foot semicircle 10 feet high at its greatest depth, which is 125 feet from the white rush of water. Caught against the sunlight that pours upon it late in the day this is a sight that can scarcely be forgotten.

The state of Oregon began its purchase of this scenic area in 1931 and most of the trails and physical facilities were constructed by the Civilian Conservation Corps and the Works Progress Administration. Even the dining hall furniture in

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North Falls is one of 14 waterfalls in Silver Creek Falls State Park, Ore.



South Falls drops a sheer 177 feet over lava cliff into a crystal pool

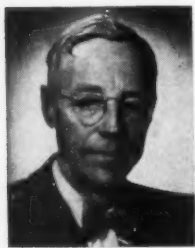
Twin Falls is pleasing to the eye as the visitor hikes around the park



One of ten cascades for which the park is famous is Lower South Falls



These fishermen try their luck at Upper North Falls



Arthur N. Pack

Easy Solutions to Land Use Questioned

By ARTHUR N. PACK

The January issue of *American Forests* presented an article by C. K. Stedman entitled "An Algebraic Approach to Land Use in the Pacific Northwest," in which the author argued the case for primary use as opposed to multiple use. In presenting the article the Editors offered equal space for rebuttal.

WHEN the U. S. Forest Service sponsored the so-called Multiple Use Act, it thereby assumed a responsibility for exercising judgment before which even a modern King Solomon might hesitate. It is not surprising, therefore, that various conflicting interests have been seeking to try their cases in the newspapers, magazines and television, thus hoping to apply pressure in support of a particular viewpoint.

Like the opposing mothers in the Bible story of King Solomon, each group wants exclusive custody of the child (i.e., of some specific forested area). Like the opposing mothers again, each group endeavors to produce or manufacture evidence or rules of evidence which will tend to favor multiple use including logging on the one hand or permanent preservation on the other.

Just such an attempt was presented by C. K. Stedman in the January *AMERICAN FORESTS* wherein he sets up a mathematical formula based on the ratio of 1,000 square miles adjoining the Glacier Peak Wilderness area to 750,000 square miles total of timber growing land (0.13 per cent) and deduces that the loss of this 1,000 square miles to logging would amount only to a piece of 2 x 4 two feet long to each person in the U. S. Thus he "proves" that this land should be withdrawn from possible logging and added to permanent wilderness area. Q.E.D.

Mr. Stedman's sincerity and desire to throw light upon a difficult problem is not in question but, as it happens, the same kind of mathematics can work equally well on the other side. Supposing one were to compare the number of *people* (hikers and campers) who would visit this western wilderness area with the total population of the U. S. The percentage would come out infinitely smaller than Mr. Stedman's 0.13 per cent, and lo and behold, we would

have manufactured a mathematical "proof" that the preservationists should be disregarded entirely and the lumbermen gain permanent possession of the prize. Actually nothing has been proved either way.

All mathematical formulae are based upon certain primary assumptions. Let one primary assumption at Cape Canaveral be ever so slightly in error and the proposed rocket to the moon goes astray and has to be blown up. In the field of economics and sociology, one must be equally careful and honest in defining the problem and tying it to a formula or rule. One assumption seemingly implied by Mr. Stedman and other opponents of multiple use is that logging of any kind destroys recreational values forever. If a given area is withdrawn from cutting and permanently assigned to "primary" use as wilderness, they admit that this would constitute permanent loss of timber growing land to commercial fiber production. On the other hand, they imply that multiple use, by permitting logging, would mean *permanent* loss of the area to recreation. This false argument is used over and over again by some members of the preservationist group. They illustrate their propaganda folders with pictures of cut over and burned land, implying that its natural beauty is lost forever. Each picture of devastation they blame on multiple use, neglecting to show the many areas within our national parks equally desolated by lightning or man made fires. Yet many of our beautiful state parks and other similar areas used for recreation are made up of formerly lumbered and burned areas, as the presence of old stumps and ancient logging roads will testify. To be sure, there were several years in the past immediately following the logging, when one would hardly have cared to picnic in the cleared scar

areas, but nature (sometimes helped, sometimes hindered by man) took over and repaired the damage. Today's systems of sustained yield operation are designed to restore rather than permanently to blight the land.

While multiple use operation does not necessarily permit all uses simultaneously, it is none the less non-exclusive over a reasonable cycle. The supporters of the preferential or exclusive use theory too often suffer from short range vision. They forget that forests are not mines of precious material which, once used, are gone forever, but are actually ever renewable gifts of nature. Incidentally, the preservationists also tend to forget that there are many equally earnest, perfectly sincere, well grounded conservationists who are warm adherents to the disputed policy of multiple use.

Contrary to the insinuations of certain exclusively preservation-minded critics, the general theory of multiple use does not exclude the setting aside for preservation of specific wilderness areas, the value of which no one denies. Vast areas have been and are now so protected in their original state under Forest Service jurisdiction and this is good. The question at issue is merely how much more land should be taken from the multiple use pot and permanently reserved for a particular kind of recreational use.

What some unquestionably earnest friends of conservation seem to wish to do is to remove from Forest Service jurisdiction scenic areas suited for recreation and turn them over to the National Park Service for administration. By so doing, this pressure group hopes to close and lock the door more securely and forever against any harvesting of the wood and fiber product. Curiously enough, this same group appears quite blind to the fact that transferring lands

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Water + Wood + Game + Recreation = Logging



George A. Craig

Two men, whose articles appear on these pages, have availed themselves of this opportunity. Arthur N. Pack, president of the Charles Lathrop Pack Forestry Foundation, is a director of AFA. George A. Craig, former editor of *The Timberman*, is active in the SAF and forestry affairs on the West Coast.

By GEORGE A. CRAIG

POPULATION pressures and limited forest area certainly are at the heart of our land-use problems as Dr. C. K. Stedman suggests in "An Algebraic Approach to Land Use" (*AMERICAN FORESTS*, January, 1961). He is right in urging a more comprehensive analysis. However, beyond these points, his presentation is of little value since it draws conclusions based on false premises and does not follow through with the balanced appraisal that he seems to recommend.

Dr. Stedman weighs quantitatively the implication of timber use but comes no closer than anyone else to a numerical evaluation of wilderness, and much less close than many others to a numerical evaluation of recreation. The algebraic approach is nothing new; only no one, including Dr. Stedman, has figured out a way to reduce certain types of values to a numerical basis.

Other material in the article shows a lack of understanding of forest management principles. No one is advocating that we "chop down all the trees" as he implies. Maximum wood production requires well-stocked forests of healthy trees—attractive and safe for recreationists.

The greatest production of useful water will not result "by leaving the virgin forest uncut." (Dr. Stedman refers to watershed "protection," but protection is only part of the management of watersheds for maximum yields of good water.) Recent studies in California show, for example, that water yields from forests in the snow belt may be increased 10 to 15 per cent by normal commercial logging, and as much as 30 per cent by heavier cuts designed for maximum water production.

Dr. Stedman recognizes his own failure to define his terms but this does not clarify his statement. There seems to be an incongruous belief on his part that "wilderness" might

have some development but that no trees should be cut. Logging has been an important tool in the development of the recreational use of the national forests, and selective timber cutting is done in national parks. Timber access roads are important recreational facilities.

The "ever increasing flood of visitors to the national parks" is more than matched by the droves of people going to the national forests for recreation. More important, the use of developed camp grounds and picnic areas in the national forests has been expanding at a greater rate than the rate of increase in the use of wilderness areas, as defined by the Forest Service. The rate of growth in wilderness use has also been exceeded by that for other recreational uses, such as winter sports and resorts. These developed forests *can* and *do* "take the place of virgin forests, streams and mountains which can be found only in the national parks and wilderness areas."

Again, in the reference to game, Dr. Stedman uses the term "preservation" as if that, rather than "production," were the objective of game management. Well-qualified zoologists have classed virgin redwood forests as "biological deserts." The Bureau of Sport Fisheries and Wildlife of the Department of the Interior manages forests to maintain uneven-age classes of trees through logging, a common objective of foresters primarily concerned with wood production in much of the West.

Assuming the eventual necessity for producing maximum yields of water, the desirability of increasing the production of game, and the growing demand for more developed camp grounds, picnic areas, etc., we must conclude that we will require more, not less, manipulation of the vegetative cover or "logging" (to use Dr. Stedman's scare word). This shows that "multiple use" is inher-

ent in land management, neither misleading nor confusing to one who understands both the ecological and economic interrelationships which a forest presents.

Our problems will continue to be compounded by our inability to evaluate intelligently the relative "needs" and costs of the various uses of the forests. Clawson and Fox in the same issue of *AMERICAN FORESTS* properly raised questions about the soundness of our national decisions regarding public policy for natural resources and emphasized the lack of alternatives offered to the public in the establishment of policies.

Generally, we need a better definition of management objectives for the public lands. It is unrealistic to say that all of the multiple uses of the national forests will have equal importance.

Before the goals are better defined, we need a careful study by competent people from a variety of professional fields. Such a study should examine the need for and cost of different amounts of recreation, water, timber, game and forage and their relationships to each other. Essential would be the consideration of the consequences of land "withdrawals" for reservoirs, power line rights-of-way, highways, etc. With such a thorough study by some independent research group, such as the University of California's Wildland Research Center, we will have the information necessary to the establishment of justifiable general goals for each of the uses.

Such information should greatly reduce the areas of difference between Dr. Stedman and equally well-intended people with other interests. More important, it would lessen the chances for policy being established by an emotionally-based propaganda campaign or any other superficial device, such as Dr. Stedman's algebraic approach.



Harold G. Wilm, N.Y. Conservation Commissioner (l.) signs agreement for preservation of Tobay Pond Sanctuary as Supervisor John Burns, Oyster Bay Township waits to sign. Standing, Thomas Pynchon, Township Supt. of Highways

By NEAL ASHBY

THE state of New York and its township of Oyster Bay have just entered into a pioneering agreement in which they set forth that at least in one section of Long Island's South Shore, the government should do no less for wildlife than it does for thoroughly tamed humans.

State and township are joining to preserve and maintain the Tobay Pond Sanctuary just to the east of New York's famed Atlantic shore playground called Jones Beach.

The 500-acre sanctuary, a busy stop on the Atlantic Flyway traversed by migratory birds, contains one of the few bodies of fresh water found on an ocean barrier beach on the eastern seaboard.

A fine slice of nature is being put permanently in reserve status under what is termed the first joint conservation program involving a state and one of its lesser units of government. Equally significant, a portion of the nation's alarmingly dwindling wetlands is to be safeguarded. Dr. James T. McBroom of the United States Fish and Wildlife Service recently stated that only a crash program to conserve wetlands could save the wildlife peculiar to such marshy lowlands in any im-

portant quantities. Referring particularly to wildfowl, McBroom said:

"We are going to have to take a bold, new approach to the whole problem if we are to maintain in this nation a reasonable supply for future generations. The time to act is now if we are not to relegate them to the exclusive care of the zoos in our cities."

Draining, clearing to make way for building development, and flood control projects are biting steadily at the indispensable wetland habitats of the majestic, long-legged cranes, herons, egrets and their like, as well as small mammals, songbirds and marine life. Only about 82 million remain of the country's original 127 million acres of wetlands, estimates McBroom, who is chief of the Wildlife Service's Division of Technical Services.

The sandy skirts of the Tobay Pond Sanctuary are kept wet by the waters of South Oyster Bay on the north and of the pounding Atlantic on the south. The wildlife hideaway is situated in the center of a long barrier beach separating the mainland of Long Island from the ocean, some 35 miles east of New York



City's Times Square. In its midst lies unique Tobay Pond, its surface perpetually dotted by waterfowl at watery rest.

Held by Oyster Bay Township in recent years after uneventful intervals of private, state and federal ownership, the sanctuary tract has been left pretty much alone since it ceased to be a hunting preserve in the 1920's.

Now, as part of the joint state-township agreement, it is going to sustain some formal development for which New York State will pay an estimated \$22,000.

An entrance road will be laid extending from the parking field at Oyster Bay Township's adjacent Tobay Beach on into the wilds to the site of a small sanctuary parking field which will be constructed to accommodate 25 to 30 cars.

From here, a footpath will stretch further into the preserve to a point at which the state will erect a 25-foot watchtower. This will provide groups of about 20 nature lovers, students, ornithologists, naturalists or sightseers a point of vantage. The tower will overlook the sanctuary's most valuable asset, the pond, at whose edges water stabilization

structures will be constructed.

"We expect the project will be finished by late spring," reports William Bentley, the State Conservation Commission's Long Island fish and game supervisor. "It will include some footpaths around the pond."

When the state's improvements are completed, it will share maintenance costs with Oyster Bay Township. It is planned that a resident caretaker will be engaged.

The pond's waters and surrounding marshes are a welcome nesting ground or refreshment stop for the elite of larger birds, such as the snowy crane, night heron, American egret, many varieties of ducks, and Canadian geese.

Inland, among the bayberry, beach plum, wild rose, black pine, birch—and poison ivy—flit warblers, blackbirds, flickers, song sparrows and many other small birds.

Town Bay Warden George Pennell lists among resident mammals the muskrat, mink, weasel and red fox. Reptiles are represented by garters and beach adders.

The sanctuary's sandy soil sustains rough plant life and low underbrush. The tough trees which can

make it in this unfavorable setting do not grow to any substantial height.

The bay side boundary of the parcel consists of wet, marshy, reedy expanses. The ocean edge is covered with very light, inviting sands rising in places as dunes.

Naturalists had known of Tobay Pond and its great value in the life scheme, but the certain preservation of the sector held no substance until the career men gained an influential ally in 1958. He was the supervisor of Oyster Bay Township, conservation-conscious John Burns.

"I became aware," relates the tall, slim leader of his township's government, "that not far from the sanctuary on the same South Shore, apartment buildings run all the way down to the water's edge. The location and view are enjoyed only by the occupants of the apartments. Shore and marine life, including the sport fish, has been disrupted. It seemed to me we should make certain this kind of development did not continue in this section."

Burns called together an impressive collection of experts to establish the full significance of the wetland
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Money doesn't grow on trees, but it can and does grow *with* trees, as many an astute investor is becoming aware

The Investment Merits of

By PETER WYCKOFF

Hayden, Stone & Co.

MONEY doesn't actually grow on trees, of course. But how many people who use the expression know that timberland values are constantly increasing; that a strategic investment made in trees can provide an annual yield of more than 10 per cent?

The idea that forestry means planting an acorn and waiting a century for an oak to mature is bunccombe. So is the theory that because trees don't grow as fast as other crops, they will benefit future generations only. Most trees reach commercial size within an ordinary lifetime. Evergreens for the Christmas market are ready much sooner. Indeed, there are few investments today which equal in safety and net yield the thrifty-growing tree of a commercial variety.

Timber growth is not influenced by labor union regulations. Trees observe no Sundays, or holidays. They take no vacations or coffee breaks. They work for you round-the-clock, growing in size while branching upward also in value.

Other reasons for investors to shout "Timber":

- Trees enhance the value of property being held for resale.
- They act as an inflation hedge and return a generous rate of interest.
- They help pay for your children's education.
- They improve the soil by retaining moisture, preventing erosion and restoring fertility.
- They enjoy a favorable tax treatment. Profits from the sale of standing timber are taxable

as capital gains; the costs of maintenance are usually deductible from ordinary income.

These items have been so well substantiated by actual facts that many individuals buy acres of timberland for a rise in stumpage, just as some investors buy corporate securities for a rise in price. Moreover, every decline in the market price of timber has reversed itself eventually and prices have climbed to new highs. Unlike most crops, which must be harvested at a given time regardless of prevailing prices, timber can be held on the stump, improving in quality and quantity, until the sap begins to rise in the market again.

One avenue of potential profit involves consultation with a broker, or a bank, about investing in the se-



of Trees

curities of some well-managed, aggressive corporation that is rich in forest land. The Weyerhaeuser Company is about the largest owner of timberlands in the United States. The box around the package of "ready mix" at your neighborhood supermarket was probably manufactured from trees planted by this company. Your wife's rayon dress may have been produced from the timber of Rayonier, Inc., which holds vast acreage in the Southeast. Even the dollar bills that paid for them were made from wood pulp blended with textile fibers. The natural assets of these and other leading companies, such as St. Regis Paper Co. with about 3½ million acres of woodland reserves, are increasing each day and night of every year.

Another method of benefiting

from tree growth is to buy a tract of standing timber. This may entail more personal contact with the investment than merely holding some stock, yet the emergence of "consulting forestry" has eliminated most of the close supervision that once was necessary. Whereas an investor formerly had to own enough land to merit hiring a forester, or depend on advice from the U.S. Forest Service, or his own ingenuity, to manage woodland holdings, reliable consultants are now available to do this in any part of the country at a reasonable cost, whether a hundred or a million acres are involved.

Using new and improved methods and machinery, better transportation facilities and aided by aerial photography, trained foresters can quickly analyze the investment potential and estimate the worth of any property with remarkable accuracy. In addition, they are equipped to supervise planting, drainage and road construction, oversee the actual cutting of timber and advise when it should be thinned, or harvested, to insure the best growth and marketing conditions.

The consultant's work in protecting timber from insects and disease and especially against fire, coupled with comparable efforts made by federal, state, and local organizations, has been highly successful. Two hundred thousand forest fires burned 26 million acres of timberland in 1941. By 1958, these totals had dropped to record lows of 98,000 fires and 3.1 million acres. Although 105,000 fires in 1959 leveled 4 million acres and Interior Department officials called the conflagrations that roared through the West during the summer of 1960 "the worst in thirty years," fire hazards have nonetheless been reduced so considerably that forests can be insured at a lower rate than many people pay for fire insurance on their own homes.

Anyone buying timberland must allocate part of his cost price to the land and the balance to the timber. When the timber is sold any profit derived from the difference between the original cost price and the selling price is taxable. If the timber has been held for more than six months the profit is considered a long-term capital gain and is taxable at a maximum rate of 25 per cent. When timberland is held as an investment, the costs of maintenance may be deducted from ordinary income. However, since the dividing line between maintenance expenses, which are deductible, and the cost of perma-

nent improvements which must be added to land, or timber, is rather vague, it is important to seek expert advice if any major development work is contemplated.

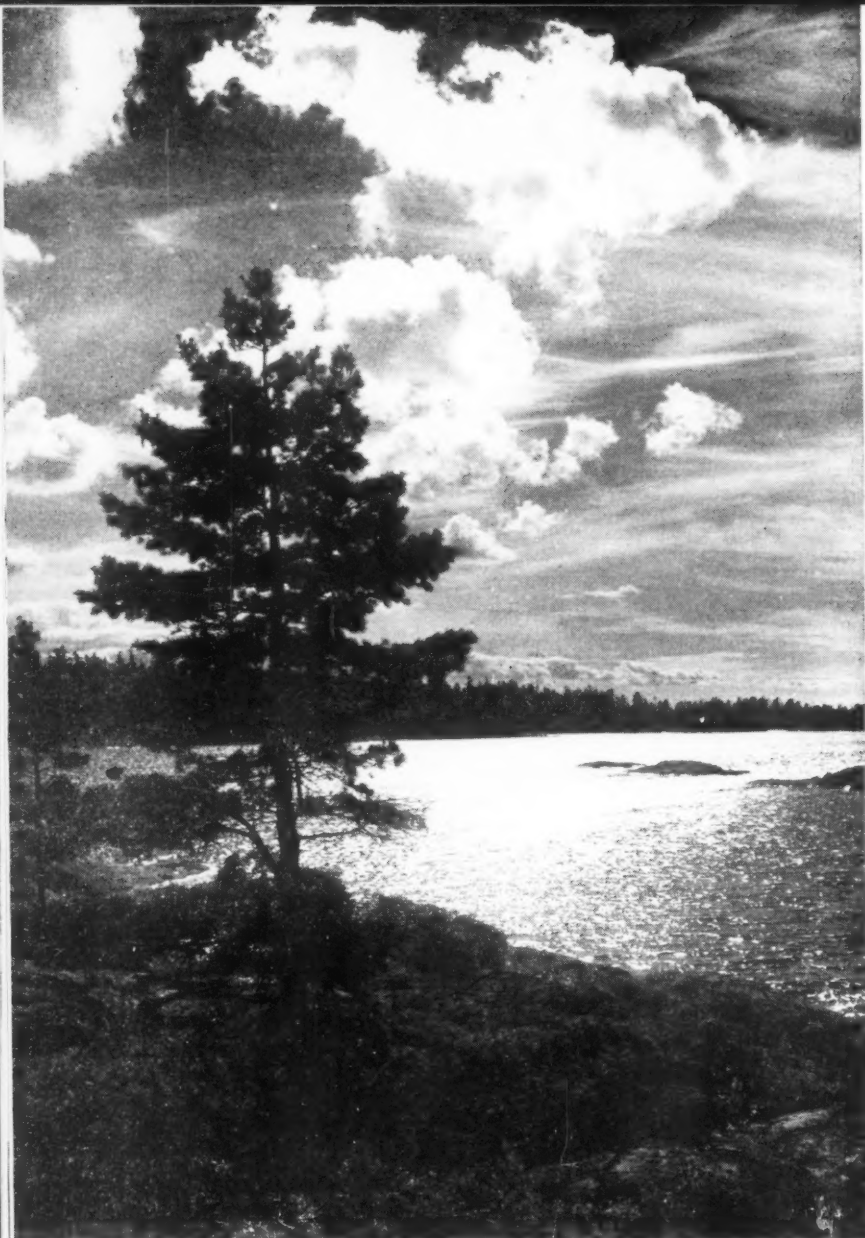
A third way to invest in trees, which should appeal particularly to week-end gardeners, retired businessmen, or to anyone who cannot afford to buy corporate securities, or a tract of growing timber, is to plant your own trees. The requirements are a plot of idle land and the address of a reliable nursery, or organization, where quality seedlings can be obtained. Since the supply and quality of wild trees is rapidly diminishing, the best seedlings, or transplants, are nursery grown. Their color is richer, their needles hold longer on heavier branches and they are better shaped than wild trees.

Age and species generally determine the cost. Mixed plantings may mean additional sales and permit a more economical use of the land, but excellent results are also derived from a solid stand of fir, pine, or spruce. However, the soil and climatic conditions of the planting site should be studied carefully before making a final decision.

- Austrian, Red, Scotch and White Pine like dry areas.
- Norway and White Spruce, Balsam, Douglasfir, and Concolor Fir (should be planted only in well-drained locations) prefer areas that are moist.
- White Pine thrives in poorly drained areas; Austrian Pine in industrial fume areas.
- Japanese Black Pine, Ponderosa Pine and Norway Spruce are fast growing. The average annual growth rate of good pine is 300-400 board feet per acre.
- For timber Austrian, Ponderosa and Red Pine and Norway Spruce are among the species favored.
- Popular varieties at Christmas include Balsam, Concolor Fir, Douglasfir and Frazer Fir. Also, Norway, Colorado Blue and Black Hills Spruce and Red, Scotch and White Pine.

Some species of two-year-old, nursery grown, pine seedlings can be obtained for about \$25 a thousand. If 2,000 seedlings costing \$50 are planted on a single acre of land—the preferred maximum per acre—a cash profit of at least \$2,000-\$2,500 should be realized within 6-8 years when the trees are ready for the Christmas market. Should the same number of seedlings be planted on a second acre

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All living things are part of a purposeful pattern

By JAMES P. JACKSON

THE HIDDEN VALUE

Although perhaps at times obscure, every living thing has some ecological value, some niche to fill within its own natural community. Nature's patterns are infinitely more complex than man-made patterns and we are only beginning to understand the laws which govern them

DURING an early experience as a nature instructor I took a group of youngsters on a woodland excursion. My goal was to teach them some appreciation of wild, living things and to accomplish this I tried to explain the values of those things we happened to observe along the trail—insectivorous birds, valuable forest trees, even some native plants which could be eaten if we became lost in the woods.

Then at one point we came upon a patch of poison ivy. As might be expected of anyone sensitive to this noxious plant, I didn't try to explain what possible values it might have. But the alert youngsters were fully aware of that challenge of appreciation I had tried to place before them.

"What good is poison ivy?" asked one of them, probably recalling some sad experience with the irritating stuff.

My honest answer on that early excursion was that I didn't know. My mistake, of course, was in trying to place a human value on a plant that was obviously not created for human beings.

It is a humble truth, though difficult to admit, that many living things were created not for the benefit or the enjoyment of man. But if this is so, it brings forth that eternal human question: what is it good for?

If we observe nature with an impersonal eye, as inhuman as that may be, we see that all living things are part of some purposeful pattern, one in which each plant and animal is reserved a useful niche. The challenge is for us to view each woodland, each field and waterway as a community in which all members have a right to exist.

For example, since my early experiences as a nature instructor, I have learned that poison ivy is toxic only to human beings. Actually, the white-tailed deer consumes its succulent leaves in the spring, birds eat its white, waxy berries in autumn and cottontail rabbits nibble its bark during deep snows. Were we to consume any part of the plant, the result would likely be severe internal poisoning.

Early last spring I searched a brushy ravine in our neighborhood for evidence of what the local cottontails must have eaten to survive some deep, long-lasting snows of late winter. Specifically, I was looking for signs of debarking activity on the tangle of assorted plants in the ravine. I discovered that evidence, but only on stems of poison ivy. In other

words, the cottontails had survived on the one plant which causes most people to give that ravine a wide berth.

Many plants that are a nuisance to people can in some situations be of great value to the land upon which all the people depend. The highly successful weeds that invade most cultivated lands are excellent examples. They are living proof that nature abhors a vacuum, for their purpose evidently is to revegetate bare ground—any bare ground. Except on cultivated land this is a good thing.

Were it not for tough, aggressive weeds, the ugly scars of soil erosion would soon dominate much of the landscape which man has abused with ax, fire and plow. Instead, the healing powers of greenery tend to invade all bare ground that receives enough moisture, even the most sterile-looking subsoil. The weeds protect soil from further erosion, their roots permit water to enter the sun-baked surfaces, and eventually their organic remains begin to renew the more productive topsoil.

In a forest, even though trees are the dominant forms of life, lesser plants also contribute their share to the health and welfare of the community.

A friend of mine recently bought a tract of forestland on which to build a summer cottage. It was typical second-growth, with patchy groves of pole-sized trees and lots of undergrowth, especially where sunlight could reach the ground. As soon as he had signed the deed of ownership, my friend began talking of clearing all vegetation but the dominant trees. He visualized a park-like tract in which he could easily observe the wildlife of his new sanctuary.

Fortunately for him, his plans for the clearing operation were delayed. This allowed him time to learn—with some persuasion—that his plan would have destroyed the very things he sought to enjoy. Now he realizes that a forest is such a close-knit community that its varied members are all dependent upon each other.

Consider the countless herbs, shrubs and vines of a typical forest. Most of them are of no direct use to man; yet they, along with the trees, conserve the life-giving soil and water of the forest. In summer their leaves gently break the fall of hard rains and their tangled web of roots are a constant protection against erosion. When they shed their leaves and, finally, when they die, they con-

tribute to the soil a spongy layer of valuable organic matter.

The same lesser plants also serve as food, home and shelter from enemies for much of the community's animal life. This service encompasses the plant-eating insects and the songbirds which feed on them, the rodents and the hawks and owls which prey on them, even the trout which rises in the stream to its choice of woodland fly. The animals, of course, return the service by such activities as pollination, seed dispersal and, even in death, by their return to the fertile soil of their birth.

Even the lowly termite has an important function. When this consumer of dead wood happens to enter a home—either yours or mine—we call the pest exterminator with a vengeance. But within the limits of a forest, termites join forces with beetles, bacteria and fungi in a sort of decomposition corps which aids the return of dead wood to the soil. This, of course, contributes organic matter to the soil and helps to improve its water-holding capacity.

So once again, as in the case of poison ivy, the value we place upon termites depends entirely on how we think: in terms of human interest or in terms of the natural world.

More often than not, the interests of the natural world are subtly allied to ours. This is so because the land which feeds us usually turns out to be only as healthy as the natural community it must also support. Many farmers today, even chicken farmers, know that hawks are not the villains they were once considered to be. Hawks, along with foxes, snakes and other predatory animals are the great levelers, the creatures which control most prolific plant-eaters such as mice, rats and rabbits. Yet in nature's system of eat and be eaten, even the latter are levelers in a subtle way.

For the great diversity of both predators and prey helps to prevent population disasters. If mice were the only food available for hawks and some disease wiped out all of them, the hawks would be forced upon a diet of songbirds and other forms desirable to us. On the other hand, if hawks were the only predators and they all succumbed to some natural disaster, people who live close to the land would soon be up to their proverbial ears in rodents and rabbits. But it so happens that in a healthy natural community there is great diversity of birds, mam-

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KING CANUTE, sitting on his throne on a beach bidding the tide halt, has been a dramatic picture with me since primary school days. There sat the king—and on came the great rolling breakers. The inevitable happened—the tide continued inexorably to rise—the king and his throne were engulfed by the onward rush of the tide. It has always been thus. It will always be so—time and tide cannot be stayed. There always was, and always will be, a forward movement. New ideas will ever pour from the minds of men, resulting in new materials and new techniques.

Wildlife management is not a new profession. In its infancy it began using the tools which in the past had destroyed wildlife habitats. Some of them it still uses, and probably always will, although their form may change. The plough, the ax, and strangely to many people, even fire—all are basic tools for shaping the face of the land so that it will produce the most beneficial plant covers for wildlife.

Don't ever make the mistake of thinking for one moment that wildlife can be separated from plants. It never can be. Plants provide the various necessary types of cover—cover for nesting, for roosting; cover in which to escape from enemies and the vagaries of the weather. They also provide food supplies, especially the important winter foods. The manipulation of plant cover is the prime function of the wildlife manager. It is his major tool for increasing the wildlife carrying capacity of any land area.

Large sections of the United States are naturally forest lands. This is especially true of the most highly populated section of the country—the eastern United States. Turn your back on the land for a decade or so, and the forest has swooped down to claim her own. Since the days of the Pilgrims, it has been one continuous battle to retain open areas, whether they were needed for pasture, or for crop-growing.

The basic problem of the wildlife manager is to maintain a balance between lands growing woody plants and open areas. His primary interest is in "edge," where two types of cover merge. The best edge for wildlife, as has been demonstrated time after time, is edge which has farmland on one side of it. It is here where the

greatest populations of wildlife are found. It makes no difference whether you measure it in terms of numbers of individuals, or numbers of species. It is always this farmland edge which makes possible the rich food supplies necessary for wildlife to live there abundantly.

Only rarely is an ideal mixture of food and cover plants present in an unmanaged situation. Even when the wildlife manager purposely creates good wildlife food and cover areas, whether this is done by manipulation, or by planting, with the passage of time and the influx of outside plant species, effort must be expended to eliminate the undesirables. Nothing in nature is static. The wildlife manager's job is to guide the formation of plant composition purposely so that it will best serve wildlife. To do this he used all of the time-tested tools, and if he is operating mentally in time present, he will utilize all of the modern tools at his disposal. One of these is really a whole arsenal of weapons—the chemist's fist-full of herbicides tailored to do many different jobs.

"Keep America Green" has been a well-received slogan—and rightly so. Verdant roadsides and well landscaped homes and public buildings are the hallmark of a discerning public which loves its country and its countryside.

Cries of anguish from the general public have been raised when blanket spraying with herbicides of roadsides has turned them brown. This is particularly difficult to explain satisfactorily when the brown area is periodically punctuated with signs which state, "Keep America Green."

What is the answer to this sort of situation? Obviously the puzzled public has a right to one.

The answer is, as I see it, to stop blanket spraying in most places and substitute the spot use of herbicides to eliminate those plants which are not contributing to roadside beauty. Obviously under some circumstances, when a grass cover is necessary as an essential ingredient of a well-engineered and safe highway, blanket spraying to eliminate all woody plants is called for. This treatment could sensibly be explained to the public when selective herbicidal treatments were also available to demonstrate the creative values which can be attained through the wise use of herbicides.



SANE USE

The crux of this whole matter lies in the ability of the people using the herbicide. It should be quite clear that to achieve natural beauty by the elimination of less desirable types of plants so that more desirable ones can occupy the space, is a creative function. Obviously, and unfortunately, there will be some undesirable browning of vegetation due to any herbicidal treatment while the change-over is being accomplished, but this would be a temporary situation.

Somebody must know in advance what it is that is to be created. Somebody must determine which from the total plants available are the ones to be eliminated, and which ones retained. Inevitably, if trees and shrubs are retained for their beauty of bloom, the landscape will produce more wildlife food, because



Spot use of herbicides, rather than blanket spraying, is effective in eliminating less desirable plants along the roadside

SE OF HERBICIDES /

By EDWIN A. MASON

*Director, Arcadia Wildlife Sanctuary
Massachusetts Audubon Society*

fruits follow bloom as day follows night. This means that somebody has to be able to identify plant materials. . . . And it means that this knowledge has to trickle down, or be implanted, in the mind of the operator doing the actual work in the field. This is not too much to ask. Nobody in his right mind would turn a workman loose to operate an expensive piece of equipment without first making sure he knew how to use it wisely. When the value of a well-balanced landscape, stocked with well-spaced, desirable and beautiful native trees and shrubs is considered, it makes good business sense that a thorough briefing on how this can be attained is as important a must as is a briefing on how to use an expensive piece of machinery.

Beautiful and valuable landscapes

can be created from the free stocks of native plant materials already present in most places. These beautiful landscapes can be created at little expense if somebody will predetermine what is required for a particular site—if somebody will take the time and trouble to see to it that an intelligent use is made of the new scientific tool provided by the sensible use of herbicides.

When herbicides are applied by a spray gun in liquid form, they are difficult to place exactly where they are wanted. This is especially true when 2,4-D and 2,4,5-T are used, inasmuch as the material is extremely volatile. Wind drift can create a hazard even when the operator's aim is as good as his choice of target. This is why an herbicide in pellet form was welcomed—it makes it possible to place the material accu-

rately and so makes more likely the elimination of the unwanted, and retention of the desired plant forms.

Dybar, an herbicide in pellet form, is easy to apply. All that is necessary is that one tablespoon of pellets be scattered at the base of an undesirable shrub. Several tablespoons would be necessary for a large-sized undesirable tree. Thickets of multiple-stemmed plants can be eliminated by broadcast sowings of Dybar pellets, at the rate of 50 pounds to the acre, which would be at the rate of approximately 16 pellets per square foot. Since the material enters the plant through the root system, great care must be exercised when using it near plants desired to provide wildlife food or cover when root systems are intertwined. Under such circumstances Dybar treatment

(Turn to page 50)

“FREE-BREATHING,”

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Owner of this International TD-25 skids 8,000 to 10,000 bf of douglas fir and hemlock per turn—on steep, high altitude timberlands. Note that the “25” is making a turn, pulling the big

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Dr. Yoho is the assistant director of AFA's North Carolina Landownership Study

An American View of the Swedish Experience

By JAMES G. YOHO

*Professor of Forest Economics
Duke University*

I have always admired and enjoyed the writings of Dean Streiffert which have appeared in American forest literature, and I am sure many of you here today have enjoyed a similar experience. I am equally sure, however, that I have missed even more than I've had the opportunity to enjoy as a result of my inability to read Swedish. And most of you, likewise, probably share that fate with me.

This afternoon I should like to depart somewhat from the customary role of the discussant by not restricting myself to a critique of Dean Streiffert's paper (see "Management of Small Woodlots in Sweden," *AMERICAN FORESTS*, February, 1961). I plan, instead, to expand my remarks to include comments upon the possible application to the American scene of Swedish experience in dealing with the problem of the small forest ownership. And finally, I might venture some observations of my own upon this timely topic of American forestry.

A careful examination of the copy of Dean Streiffert's paper which was sent to me as a basis for formulating this discussion failed to yield much with which I could take direct issue. There appear to be two reasons for this situation which represents a difficult state of affairs to me. First and foremost is the fact that I seem to agree basically with the notions put forth by Dean Streiffert. Secondly, and most bothersome to me, is the manner in which Dean Streiffert has carefully hedged most of his statements thereby automatically tending to counter questions as they arise. For this latter reason, I intend in many cases to direct my comments toward what seems to have been im-

plied though perhaps not directly stated.

It is quite obvious from Dean Streiffert's presentation that forest regulation plays a very important role in Swedish forest policy; and, therefore, a discussion of other policy measures would not be complete without giving due consideration to its influence. However, inasmuch as forest regulation is a well worn subject to most of you, I intend to omit it from this discussion except for a brief passing tribute to Sweden's way of handling the matter. In this regard, I doubt that one could do better than to offer the following quotation from Greeley's book on forest policy concerning forest regulation in Sweden which states that... "This legal testing of silvicultural operations by an economic yardstick is probably the most advanced public regulation of private forestry yet undertaken in any country."

Before launching into the detailed remarks which follow, I should like to explain another significant omission from my discussion. This time, however, the omission was necessitated largely by the fact that Dean Streiffert failed to touch upon this important aspect of Swedish forest policy. I refer, of course, to the role of public subsidies to private owners.

Differences Between the Forest Economies of the Two Nations

At the outset of his paper, Dean Streiffert emphasizes that tradition, the human factor, and the place of forestry in the national economy as well as in the economy of average owners of small forest holdings will govern to a considerable extent the possibility of successfully transplant-

ing proven institutions from the forest economy of one nation to another. It would be difficult to quarrel with these arguments and, hence, a mistake to fail to consider how Sweden and the United States appear to differ in these regards. Consideration of such differences also seems called for because much that has been written about forestry in the two countries stresses similarities although Dean Streiffert has not followed that path here today. And, of course, it is my duty as the discussant to point up any differences which I believe to exist even at the risk of shattering some cherished beliefs.

It seems rather obvious, without the necessity of boring you with the citation of a great many statistics, that forestry assumes greater importance in the economy of Sweden and in the economy of Swedish landowners than is the case in the United States. The value of forest products exported from Sweden annually, for example, is reported to vary from one-third to one-half of the value of all exports; whereas, the United States is one of the world's leading importers of such products. Forest-based employment in Sweden also is said to be exceeded only by that in agriculture; but in the United States the per cent of the total labor force engaged in forestry and logging runs only about one-third of one per cent nationally (0.36 per cent in 1950) and reaches a maximum of only one per cent in one forest region. Agriculture, on the other hand, can claim about 12 per cent (11.56 per cent in 1950) of the total labor force of the United States. (If one considers forest based manufacturing industries alone, however, such

industries account for about 10 per cent of the U. S. labor force employed in manufacturing.)

The forest as a source of income to individual owners in Sweden seems far to outweigh that of their American counterpart. It has been authoritatively stated that the forest, including off-farm employment, is often the major source of cash income to Swedish farmers. On the other hand, the low incomes invariably attributed to their woodlots by American farmers in the Census of Agriculture has long been a matter of common knowledge and concern in forestry circles. I might add, however, that preliminary results of our recent work in North Carolina tend to substantiate the Census of Agriculture for we seldom encountered a landowner, either farmer or other, who believed that over two per cent of his long-term average annual income could be attributed to his forest holdings. Woodlots also appear to offer a less significant source of home-use material to American farmers than is the case with Swedish farmers; but this is difficult to demonstrate because only fragmentary evidence exists on the subject. Again, however, if I might cite our recent work in North Carolina, we were quite surprised to learn that a very high percentage of the farm woodland owners in that state still made a regular practice of cutting timber for home-use purposes other than for use as fuel.

Still another important difference between American and Swedish forest conditions relative to the problem under discussion is the matter of stability of ownership. American landowners are accustomed to an environment in which land is a more marketable commodity than almost any place else in the world. And my own experiences indicate that they are very fearful of entangling arrangements which would restrict the marketability of their forest properties. These points can be illustrated by the fact that among non-industrial private owners in the United States, the average length of forest land tenure ranges from about 10 to 15 years. And we have no reliable indication of the stability of family forest ownership which, incidentally, I found in Michigan to be correlated with the quality of management practiced.

I believe that there are also important differences with respect to Dean Streyffert's so called "human factor and tradition" between American forest landowners and their Swedish

counterparts. These are, of course, more difficult to quantify than the more tangible contentions; nevertheless, I am quite convinced that there are real and significant differences. American landowners have usually been characterized as rugged individualists. However, according to Schickle they seem to be "growing up to maturity from" what he characterizes as "the ruggedly egocentric stage of a spoiled child to the responsible stage of an adult who realizes that in order to enjoy freedom and personal dignity he must respect those precious values in others." Swedish landowners, and in particular farmers, must have begun to undergo such a transition nearly two hundred years ago judging from the description we have just heard from Dean Streyffert about the breaking up of the old village communities and the consolidation of farms. The observations of several American writers on Swedish land policy would tend to substantiate these differences.

Judging from Dean Streyffert's paper, there also appear to be differences between Swedish and American forestry in terms of the advantages and disadvantages of small forest ownership. For example, forests both on and off the farm, seem to offer little appeal to American farmers as a means of keeping their machine and labor resources fully employed. As a matter of fact, it seems that full-time farmers in the United States are tending to place increasingly higher alternative values on leisure time at the sacrifice of part-time earnings. Note that I was careful here to refer to full-time farmers because I want to distinguish them from our relatively new, large, and rapidly developing class of part-time farmers since this latter group is interested in agriculture only as a secondary source of employment.

Another apparent distinction between Swedish and American private forest landowners is the relatively greater heterogeneity of that class of owners in America. Most Swedish forest owners appear to be farmers, while in this country, a large portion of the private forest ownerships and acreage is held by a conglomeration of other occupational groups. This heterogeneous character of American forest landowners, of course, considerably complicates the possibility of instituting remedial policies.

A great deal of attention is given in Dean Streyffert's paper to the relationship between size of forest holding and its productivity in terms

of economic efficiency. And, of course, such attention is well deserved, because it is quite basic to the subject we are discussing here today. However, I fear that some of his statements and a great deal that has been said by Americans on the subject have been misleading. Streyffert points out, for example, that the influence of the size of holding on the forest yield and on the economic outcome of forestry cannot be distinguished from the influence of ownership. Admittedly, size of holdings is confounded with many factors of ownership which would make a straight-forward empirical separation extremely difficult. However, modern research methodology which has been used in agricultural production economics makes it possible to consider the influence of size separately from that of ownership. Briefly, the technique involves the synthesis of model farms representing various scale and enterprise-combination situations. This makes it possible to observe the changes in output which would result from adjustments in input levels, including differential adjustments among different enterprises.

It certainly seems that we have been remiss in our research into the economic problems of the small forest ownership through our failure to attempt to apply these techniques of agricultural economics. It is true that we lack refined physical or biological input-output coefficients for most forest practices; nevertheless, it would seem that a great deal could be learned about the economics of integrating forestry and agricultural enterprises on individual farms by the employment of very crude or approximate input-output factors.

Finally, along these same lines of argumentation, I should like to take partial issue with Dean Streyffert's summation of the interplay between size and efficiency of management on the one hand, and ownership policy on the other. I refer to his thesis that ownership decides individual owner policy. It is my belief that it leads to clearer thinking to attempt to analyze the problem in a neutral context. Therefore, I prefer to think that size of ownership and certain other characteristics of the owner are correlated with his total asset structure and his personal knowledge situation, both of which in turn dictate the owner's forest policy through capital rationing and limited knowledge. Incidentally, I believe that this serves to illustrate one way in

(Turn to page 44)



F. C. Foy, chairman of the board, Koppers Co., gave principal address at Seaboard Air Line Railroad Outdoor Woods Demonstration

Photos by Jay Crook, Winter Haven Chamber of Commerce



Attending demonstration were: (l.), Fred E. Hornaday, executive vice president, AFA; F. C. Foy, chairman of the board, Koppers Co.; R. N. Hoskins, gen. forestry agent, Seaboard Air Line Railroad; P. M. Dunn, director of technical forestry, St. Regis Paper Co.

"WOODS FULL OF MONEY"

By FRED E. HORNADAY

WINTER HAVEN, Florida, on February 2, was the scene of the 33rd Outdoor Woods demonstration sponsored by the Seaboard Air Line Railroad. First started at La Crosse, Virginia, in 1945, these demonstrations are designed to show that growing trees is a profitable venture for the small woodlot owner. More than 700 persons gathered at Winter Haven, including representatives of the U. S. Forest Service, Florida Forest Service, forest industry, civic groups, national associations, Future Farmers, and 4-H Clubs.

In the major address Fred C. Foy, chairman of the board of Koppers Company, Inc., Pittsburgh, Pa., said that money figuratively grows on trees and that the dollar harvest from Florida forests is climbing rapidly. He emphasized that the

woods today are full of money and this money accumulates fastest in Southern forests because of the rapid rate of forest growth.

The speaker said new forests are growing twice as much wood as was produced 15 years ago and that this should illustrate that cultivation of timber offers the soundest investment in farming today. Foy traced the history of the wood preserving industries pioneered by railroads for the treatment of cross-ties. A new process at Koppers makes wood an acceptable alternate for non-combustible materials, and Florida is the leading state in the nation in the use of salt-treated lumber for residential and other like construction. The three major areas of forest research involve improved durability, development of the disposal product and

chemical application, Foy added.

In the welcome address, Florida's Commissioner of Agriculture, Doyle E. Conner presented facts and figures regarding the forestry status of Florida. Annual sales of forest products in Florida totaled \$780 million and approximately 285,000 people realize income from forest and allied industries, Conner said. The state has 21.5 million acres in forestland controlled by 93,000 landowners.

Conner stressed the educational value in demonstrations of forestry and its by-products, which he said benefit youth agricultural groups as well as small landowners and industrial organizations. Farm foresters have been established in 37 Florida counties and others are being considered. The State Forest Service's

(Turn to page 53)

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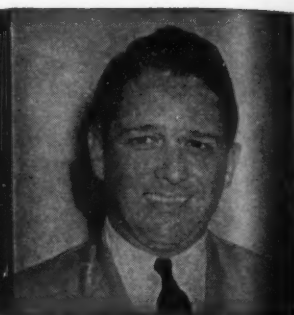
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Reading
about

RESOURCES



By MONROE BUSH

Jesse Stuart Writes of His Father

WE READ most books because we have to or ought to, or, being bored, have nothing better to do. The pleasure of reading is, for most of us most of the time, more a matter of retrospect than of experience. There is greater satisfaction in what we have read than in what we are reading. My hours with *God's Oddling* by Jesse Stuart (McGraw-Hill, 1960. 266 pp. \$4.95) were for me personally a notable and delightful exception to this rule.

God's Oddling is a beautiful book. Not necessarily in physical format, or even in style—though Stuart is professionally a gracious writer—but a book beautiful in concept. This is rare, and it is important.

Here is the story of Mick Stuart, the author's illiterate father. And whatever else it is, the book is a mirror to the life of a man who embodied noble simplicity in the literal sense of those words. That is an inestimable service to us often thinly sophisticated urban cynics.

Mick Stuart lived, labored and died in an isolated section of Greenup County, Kentucky. In a manner of speaking, he was an ignorant man. Yet he understood things about loving people, about the joy of hard work, about elemental human honor that—without any sentimentality whatever—we can best describe as the epitome of civilized behavior.

He lived in the presence of death, and lost young children at a heart-breaking rate; but he dealt with death in a far more mature fashion than most of us can do, insulated from its immediacy as we are by penicillin and cardiograms.

He worked some of the poorest land in the world, for many years rented land that he knew he must ultimately leave, and he accomplished a sort of conservation with

nothing but his own love of the earth and his own muscles that would be the envy today of mechanically armed agricultural scientists.

Mick Stuart was not a Saturday naturalist. The outdoors were not a diversion for him. He was a part of the earth itself. This is a noble condition for any farmer in any age.

I can recall no book since Aldo Leopold was writing that so clearly illustrates what it means to live close to nature. This is not the chief end of life, and it may not even be one of the more important ends, but Mick Stuart's life is a tale that should humble us who deal with nature either professionally or recreationally.

There is unfortunately not much depth of perception in *God's Oddling* of the innermost reaction of this hill-man as he coped with life's interminable blows. Son Jesse describes what happened, what his beloved father said and did, and in most instances that is enough, though the reader will come to moments in the book when he would give up a week of television to know the secrets that were between Mick and God.

Some of the passages are lyrical. For instance:

"Time is a thief that comes in the daylight, the moonlight, the sunlight. He steals what can never be brought back. He is a thief that cannot be jailed. There is not a jail big enough to hold him, nor money enough in the world to bribe him. But not even time could keep Pa and Ma Fonce from bringing the families together for a big dinner once and sometimes twice each week. Not even time could stop them from laughing and arguing. They were against time. It didn't matter. They went laughing freely with the wind.

Growing older had made them younger in a world where one sees joy, sorrow, has music, life, love, tears, where life is before one—life so big, so great, high as the skies are high, deep as the earth is deep."

These words are more than pretty. In reading *God's Oddling* one gets the firm impression that this is exactly the way Mick Stuart was.

And the reader learns about Jesse as well as Mick, for what a son writes of his father is inevitably revealing. The world knows that the younger hill-man is both a fine writer and a fine person. From the story of the father it is easy to see why. In the years of intimacy between the gifted Jesse Stuart and his elemental father, he gained the sort of viewpoint that enables him now to write:

"I would like to start my life over—borrow this same dust from the earth, have my same parents back, be born in the same little one-room log shack. I would like to write my school themes again, use the same old fountain pen, see the same wild flowers, hear the same wordless song of the leaping stream. I would like to have my sheep back on this hill, have the hill green as it was then, with the clouds dropping down occasionally to visit and hide the woolly sheep. I would like to sell my first poem and my first story again, and write my first novel.

"After one has been through the agony of a heart attack, after he has learned on what a slender thread life hangs, after he lies flat in bed five months and has time to reflect, he realizes how great it is to live fully. No one knows how wonderful it is to be alive until he knows how it feels to die."

This is not original, and very little of Jesse Stuart's writing is. It is by

no means immortal literature. But it sounds a simple truth concerning us all that I suspect we think of very rarely.

The whole of the book is in this vein: it brings to mind so many of the simple attitudes which alone can build for human happiness, that the end effect is to give us another chance to become happier people—happier in the full-man sense. There is no better reason for buying a book than a prospect of this kind.

New and To Note

Words of the Earth, by Cedric Wright. Edited by Nancy Newhall with a foreword by Ansel Adams. (Published by the Sierra Club, and distributed by Alfred Knopf, New York. 1960. 96 pp. and 53 photos. \$12.50.) This is a book of gorgeous photographs and sometimes very perceptive poetry, collected from the life-work of the late Cedric Wright, mountaineer extraordinary. The great sweeping photographs such as the ones found on pages 81 and 93 are similar to the work of Ansel Adams himself. The majority of pictures, however, are more concerned with the designs that are found in nature than with representation for its own sake. And there is great emphasis here on black-and-white composition, which is—or can be—of the spirit of poetry, which very likely accounts for its inclusion.

There are remarkable lines amidst the poetry. "Trouble is a fierce rain that drives us to the shelter of our friends," is, for example, an incomparable figure of speech. And the following lines are as good as one is apt to find anywhere:

"Firelighting stretches down frontier days into archaic vistas.

There is a long history of man and fire.

Something from the past descends and flows down silently on fire-watches, like the dim racial memory of rain."

Yet this is not Walt Whitman or Vachel Lindsey. For the most part there is too much fascination with sound, and big words like "love" are used as if the words said something in themselves, which of course they do not. The book is a handsome memorial to a great human being, and that is its chief distinction.

Exploring Glaciers—with a Camera, by A. E. Harrison. (Sierra Club, San Francisco 4, Calif. 1960. 72 pp. \$1.95.) This Sierra Club publication, unlike the Cedric Wright book, is modest and unpretentious, and as fine an introduction to glaciers as

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OLDER—BUSHIER

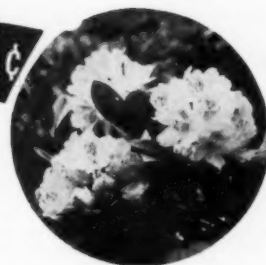
These are bushy 4 to 6 stem plants, 2 years older. Some blooms this year. Balled and burlapped.

20 PLANTS (5 of each variety listed above)	\$31.00
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1 1/2 to 2 ft. high. Most are already budded for bloom this year. Balled and burlapped.

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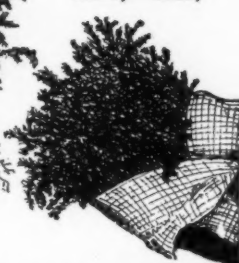
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LIRIODENDRON (Tulip)	4 to 5 ft.	18.00	150.00	Golden Weeping (Niobe)	4 to 5 ft.	12.50	110.00
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Portage Into the Past, by J. Arnold Bolz. (University of Minnesota Press, Minneapolis, 1960. 181 pp. \$4.50.) Sub-titled "By Canoe Along the Minnesota-Ontario Boundary Waters," this is a retracing both by canoe and scholarship of the old water routes that were once so filled with romance and adventure. Physician-naturalist Bolz takes to the white water with an historical perspective that brings this land alive. A very solid job.

"Take the Scientists Out of the Sheds"

(From page 15)

"The laboratory which I visited was in the deep south, on the Gulf of Mexico. It is working on special programs in connection with what is called the coastal plain pine, or the long-leaf pine, the slash pine, and the loblolly pine. There I saw products which have already been produced, and which show me for a certainty that this research will revolutionize production and bring about a growth in this entire area of the country which will produce four times as much pine for naval stores, for example, and produce high quality lumber, as well as another type which grows much faster, where that type of tree is needed. It will also produce a species which has great resistance to disease, and has much more resistance to insects than other species. In other words, Mr. President, they are producing a super tree.

"I learned, by the way, that in connection with this type of research that more than 75 years ago the German Government carried out the basic research for this type of pine tree, on which we are now getting started. In other words, the hand of necessity reached in on them a long time ago. Until now we have had a great, almost inexhaustible supply.

"This is another graphic illustration showing that we must use foresight in improving the quality and production of these products against the day, which is not too many years away, when the population of our country will be double what it is today. I understand that the estimates show that that will occur around the year 2000. That will be the beginning with reference to the time that the benefits will flow from this far-reaching, well-planned, and very ef-

Atlas of Forestry in New York, by Neil J. Stout. (College of Forestry, Syracuse University. No date. \$2.50 [Send remittance to Dept. of Forest Extension, State University College of Forestry, Syracuse 10, N. Y.] 95 pp.) This practical atlas is divided into two sections, the first concerned with the nine forest regions of the state, and the second dealing with general aspects of the forest situation. The book is lavishly illustrated, though the photos are often too small to do justice to their subjects. The maps are well-conceived, however, and the text is specifically useful.

fective research which is being carried on.

"I have spoken of my personal knowledge with reference to the laboratory I visited. Other areas in the nation require different research programs. They must do the same work in research because of the fact that a different tree is involved, and because the climate is different, the insects are different, and the diseases are different. Therefore the problems vary with climate and conditions of the kind I have mentioned. There are geographical situations which vary, and which must be taken into account in carrying on the proper kind of work, and to do that the proper facilities must be set up.

"Mr. President, this is not a deluxe laboratory that I am talking about. I still have some austerity left in me, and so does the National Forest Service. This is bone and muscle construction. It is right down to earth. Here we are dealing with realities.

"The same thing is true with reference to the equipment that is necessary to carry on this work. The people who do this work must have some modern weapons. They must utilize modern equipment. The scientists cannot carry on this kind of research without these weapons, any more than a surgeon or other medical man can carry on the modern practice of medicine without a microscope and other instruments of that kind.

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tors would be interested in knowing that the few new research laboratories that recently have been built and put into operation have already shown some surprising dividends.

"As I have said before to this body, forestry research has not been well provided for, over the years. I have seen men attempt to do complicated research with mediocre equipment in made-over barracks, shanties, or other improvised quarters built during the CCC days of the 1930's. Good men will not, and need not, work on jobs where scientific facilities are so limited. This is why I put emphasis on a carefully planned and gradual building program. We now have that plan, and I propose that we see to it that it is implemented.

"Madam President, (Mrs. Neuberger, of Oregon, having taken the chair) I have listed here four high priority construction projects and the amounts provided for in the budget estimate. I am also listing 16 additional projects which I strongly recommend should be included in the budget. All of these construction projects have been developed from the original forestry plan and from discussions with the scientists involved.

"Madam President, I ask unanimous consent that the items be printed in the RECORD at this point.

Forest and Management Research

"Madam President, the increase proposed for research on production of timber, watershed, range, recreation, and wildlife habitat resource problems would strengthen work now underway but going ahead far too slowly in relation to the importance and difficulty of the problems.

"I have already referred to the progress being made in forest tree improvement, but here is one productive field of research that needs speeding up.

"The Congress is well aware of the water problems our nation must face in the years ahead. Most of our water comes from forested lands. Some of our research is pointing the way to improving water yields and at the same time protecting the soil of the mountain watersheds.

"I am not going to extend my speech on the need for looking ahead with reference to future needs of water, both fresh water and commercial water, as well as salt water, in the decades and centuries ahead; but I think it is one of the major problems that we face. This nation is wasting time, or letting time run out,

in preparing for the enormous increase in demands that are just around the corner with reference to water supply. We all know that protection of our forest lands is one of the major needs in connection not only with controlling water but saving it for use.

"The rangelands in and adjacent to the forests support large numbers of domestic livestock and millions of game animals that depend on forage and browse. Research in forest recreation has much to accomplish.

Forest Protection Research

"I am proposing a further increase of \$623,000 for research on protecting forests from fire, insects, and disease. Perhaps in these problem areas we have seen some of the greatest dividends through research. We can all be proud of the Forest Service work in determining how to protect forests from these destructive forces that are no respecters of property or landownership. But we are still taking heavy losses from fire, insects, and disease—about 44 billion board feet of saw timber per year in mortality and growth losses—almost as much timber as we grow and normally use in a year.

Forest Products Utilization Research

"The further increase of \$530,000 proposed for forest products utilization research would provide for intensification of research at the Forest Products Laboratory and the regional forest experiment stations on problems of developing new and improved uses for wood, especially for the low qualities and little-used species of timber.

Forest Economics and Marketing Research

"Finally, I suggest a further increase of \$257,000 for forest economics studies and marketing research. The problems of the small forest ownership are still the key to significantly better management practices in the country today.

"In conclusion, I want to make one point. I have proposed nothing spectacular. Rather, I am suggesting that we bring up to schedule a program that has been carefully prepared, discussed before, but only partially implemented.

"To do this will require only an additional \$6,500,000 over that contained in the budget estimate, or \$8 million over last year's program. I believe Senators will agree that experience has shown research of this

kind brings benefits many times greater than its cost. The benefits to the people of the United States from this forestry research will be great. This is truly a national program and one that will help keep this country's forest resources strong.

"Again, I endorse entirely the full program as outlined heretofore before the Appropriations Committee by the U. S. Forest Service. I urge the immediate increase of \$8 million for the National Forestry Research program, which I consider on an extreme emergency basis.

"In fiscal year 1960, the U. S. Forest Service brought to the federal treasury, from the sale of forest products and related activities, the sum of \$148,200,000. Most probably, the amount thus brought into the Treasury will increase from year to year. For the same year, fiscal year 1960, the total of appropriated funds for the U. S. Forest Service was \$138,400,000. These are actual figures which show that the U. S. Forest Service now has an income from forest products and related matters far exceeding the amount appropriated for this agency. I anticipate that this will continue for many years to come.

Must Close the Gap

"Proper and adequate forestry research requires time, a great deal of time. Laboratories cannot be built overnight, nor can scientists, technicians, and other necessary personnel be assembled overnight. And it is no overnight job to plan a program and to conduct the long and tedious trial-and-error procedures so necessary. And even more time will be required to convert the beneficial results of research into practical realization in supplying and meeting our actual needs and in strengthening our economy.

"Too much valuable time has already been lost. We cannot afford to lose another hour. We must preserve and put to better use what we now have. We must produce more and better products for the years ahead when we know the steady increase in population is certain to impose a tremendous burden on our natural resources. Within less than 15 years the population of the United States is expected to reach a total of 300 million. By the year 2000, our population is expected to reach 375 million. The growing demand for timber resources and for all other goods and services needed in the future from well-managed forest lands requires that we make ade-

quate preparation now to meet these future demands.

"We must begin to close the gap. There is no substitute for time in forestry research.

"Over and over again, the U. S. Forest Service has proven it is doubly worthy of any mission assigned it by the Congress, given the necessary money to carry out the work. Among its many achievements has been outstanding pioneer work in the growth, management, and care of forests and forest lands so as to show to private owners of timberlands, large and small, the wisdom and value of modern management methods and prac-

tices. The U. S. Forest Service is staffed with dedicated personnel of proven worth and high morale, devoted to the great cause they serve.

"Let us give to this program at least the minimum needs. We can thus insure that our forests will provide a fuller share than ever before of their goodness and bounty for our people and our way of life. And, our forests will continue—for all time to come—their unmatched contribution to the security and permanence of our great nation. Our own generation, and all future generations, will be amply rewarded. And our nation will be greatly strengthened."

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An American View of the Swedish Experience

(From page 35)

which the orientation of our research into this whole small forest ownership problem could be improved. It seems quite fundamental to me that we should strive to learn more about the role of capital limitation versus that of knowledge deficiencies as they relate to this entire problem.

Forest Associations and Cooperatives

The most unique feature of Swedish forest policy as it pertains to the problem of the small forest ownership is without doubt the degree to which cooperatives and owner associations have been developed. In his book on forest policy, Greeley states that "cooperation is the heart of Swedish forestry," and Dean Streiffert has outlined for us the very significant role forest owner associations and cooperatives play in Swedish forest policy. I must admit, however, that I had considerable difficulty in distinguishing between forest owner associations and forest cooperatives as Dean Streiffert has described them. As nearly as I can deduce, the difference is largely one of degree. Cooperatives appear to serve both producers and marketing functions more or less within the larger forest owner associations but more intensively than associations. As a producer's function, for example, the cooperatives actually supply labor services to members. The associations, on the other hand, seem to concentrate on providing a marketing service for members and their main producer's function seems restricted to education or technical assistance. These distinctions, however, do not seem great enough to warrant discussing the associations and cooperatives separately so I shall refer to them as if they were almost synonymous terms.

It has been pointed out by Dean Streiffert that farmers' cooperation was a necessary forerunner to the progress that has been made through forest cooperatives in Sweden. It thus seems advisable to consider very briefly the history and importance of agricultural cooperatives in Sweden and in this country. According to Marsh, in 1954 cooperatives handled nine-tenths of the salable agricultural produce of Sweden. Membership in cooperatives is quite large and most Swedish farmers appear to belong to more than one, hence total membership figures do not reflect

total proportionate participation. However, it seems significant that membership in nearly all types of agricultural cooperatives in Sweden has had a continuous history of phenomenal growth. Generally, the total number of cooperatives has also risen, though for some classes of cooperatives, mainly in dairying, the number has decreased slightly since World War II due to mergers. Also of general interest with respect to forest cooperatives in Sweden is the apparent fact that the management and owners of large forest holdings seem to participate more frequently than owners of small properties.

Cooperatives have been far more successful in American agriculture than in any other sector of our economy. The number of agricultural cooperatives in the United States reached a peak in 1923 though total membership and the dollar value of transactions have continued their steady rise. In the American agricultural economy, cooperatives tend to be concentrated geographically and in terms of classes of crops or products. For example, approximately 60 per cent of the total membership in farm marketing cooperatives is concentrated in twelve states in the North Central Region, while about 42 per cent of the total American membership is among cooperatives dealing in two classes of commodities—fruits and vegetables and dairy products. It seems significant that this geographical concentration of participation in cooperatives among American farmers is found in that part of the nation where the farm population is made up of a high concentration of people of Scandinavian origin.

There seems little doubt but that cooperatives do offer some possibility toward a partial solution of the American forest problem we are engaged in discussing today. Likewise, in seeking out these possibilities, I am sure that much can be learned from experiences in agriculture and in Swedish forestry. However, I believe that many of the writings on the subject are quite misleading with respect to the matter of marketing efficiencies. These misleading statements appear to have arisen as a result of the superficial treatment given the subject and/or certain fallacious and implicit assumptions employed. The type of statement which I am criticizing would lead us

to believe that forest cooperatives or owner associations can automatically overcome the cost diseconomies of size involved in marketing forest products from small properties.

It does not seem to me that there is anything in the inherent efficiency of the cooperative system which would necessarily make the costs of performing its marketing services less than those of any other system providing similar services. Nor is there any reason to assume that cooperative marketing would automatically provide a more efficient service for small scattered forest holdings which in turn would result in higher prices being received by owners. If cost reductions and higher returns to owners are effected through substituting a cooperative system for some other system of marketing, it is most likely due to one or a combination of four things. First, the bargaining power of the owner or seller has been improved relative to that of the buyer through a shift in their relative monopolistic positions. Secondly, some of the services of marketing and their associated costs which were formerly performed by the buyer have been shifted to the seller or owner; hence, the apparent increase in prices received by the owner was a return for the added services he provided himself. Thirdly, actual cost economies of size have been realized by permitting more specialization in the services rendered as a result of having expanded the overall size of the marketing operation, or having substituted the specialized services of the cooperative for those of a less specialized nature. Fourthly, reduced average unit costs may have been achieved by the simultaneous handling of several differentiated but related commodities which were formerly handled separately.

The point which I have tried to make here is that one or more of these changes must be involved with a shift to cooperative marketing before savings in the costs of marketing can arise. There is nothing inherent in the cooperative system itself that assures such changes.

Careful examination of the history of forest cooperatives will tend to substantiate these arguments. We have just heard Dean Streiffert allude to several of these explanations for the success of forest cooperatives in his country, including for example, the implication of shifts in bargaining power, shifts in the person providing part of the services, increased specialization of labor, and the simultaneous handling of differ-

ent forest products. Incidentally, the tendency toward a shifting of monopoly strength from the buyer to the seller following the establishment of forest marketing cooperatives was observed in the Norwegian forest economy by Zivnуска, who also noted that buyers had tended to counter their relative loss of strength by resorting to more centralized action.

Considering the success that forest owner associations and cooperatives have enjoyed in Sweden and elsewhere in Scandinavia as a solution to many of the problems of the small forest ownership, the question im-

mediately arises as to their prospects in the United States. As a result of studies in American agriculture, farm economists have made some interesting observations with respect to the prerequisites for the successful founding and operation of cooperatives. Foremost among such prerequisites they mention that prospective participants must feel a definite need for some special effort to cope with a situation which is bothersome to them. Dean Streiffert and others who have written about forest owner associations in Sweden have indicated beyond a shadow of doubt that

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Swedish landowners felt a definite need for the services they could obtain through cooperative action. On the basis of my own experiences with American forest landowners and from what has been written on the subject, I sincerely doubt that a sufficiently strong feeling exists among them to offer much hope for the successful founding of cooperatives unless a feeling of need could be stimulated through advertising techniques.

In Sweden one of the strongest stimuli for the establishment and expansion of forest cooperatives apparently has been in the area of timber marketing. Down to the present time, however, I do not believe that the average American forest owner has been greatly concerned about his marketing problems for two reasons: First, most of the volume and value of timber products cut from small forest properties has gone into the sawtimber market which generally has been a relatively competitive market; and, secondly, marketing studies have shown that the majority of owners making sales of sawtimber stumpage have been relatively satisfied in their dealings with local buyers. I can visualize, however, that as our forest marketing economy continues its present gradual shift away from sawtimber and toward the less competitive pulpwood buying market, a feeling of need could develop among owners for organizations to counter any monopolistic advantages displayed by buyers.

It appears that Swedish forest owners felt their second strongest need for organizing cooperatives as a result of labor shortages and the consequent difficulty in obtaining cultural and other needed services for their woodlands. Presently, I believe that the more progressive American forest owners feel the need for similar services and that they are not being adequately provided. Our

public service foresters and private consultants through their recommendations are convincing forest owners of the need for performing cultural work in their woodlands. However, a large fraction of this successful effort has been lost because forest owners with available investment capital have become discouraged in their efforts to purchase the services required to bridge the gap between recommended and applied practices.

Another prerequisite to the successful operation of a cooperative-type venture after it is under way lies in the difference between belief and reality. Many cooperatives launched without prior investigation to determine the existence of excess profits, a need for services not presently available, and other indications of an opportunity for a profitable operation, have resulted in failure. Along these lines it is worthy to note that cooperatives seem extremely vulnerable to low volumes of business inasmuch as success depends to a considerable extent on being able to operate at a low margin. Many of the failures of forestry cooperatives in this country appear directly traceable to these last two points—the latter point concerning business volume even having applied to several ventures into forestry by successful agricultural cooperatives. A few years ago we had the opportunity in North Carolina to observe the disappointment sustained by a very successful agricultural cooperative in its forestry venture because of the low volume of forest products channelled through its organization.

Now let us consider briefly what I would term as the two points most often overlooked by those who have suggested cooperatives or owner associations as a panacea for the problem of the small forest ownership in the United States. The first point is a very general one, and takes us back to Dean Streiffert's point concerning the role of "tradition" or the "human factor" because it has to do with the apparent willingness of people to join in cooperative action to solve economic problems. You will recall, also, that we previously noted the unequal geographical distribution of cooperatives in American agriculture which it would seem safe to assume is a good regional indicator of their relative acceptability to landowners. If this assumption holds, it follows that landowners are prone toward cooperative action in those very sections of the country where we recognize the small forest ownership

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problem to be most serious. And it also happens that these areas are coincident with our most productive commercial forest regions—namely, the northern Lake States, New England, and the South.

The second point seemingly given little consideration by the enthusiastic supporters of owner associations has to do with the difficulty of initiating such a program if deemed advisable. Those who have analyzed causes of success and failure among American cooperatives have repeatedly pointed to the problem of attracting and retaining capable management amidst the competition from other types of business organizations. It seems to follow from this that even stronger leadership would be required initially to organize a cooperative or owner association and to maintain interest in it through its early stages of development.

Suggestions Concerning the Situation in the U. S.

The remarks just concluded concerning forest cooperatives or owner associations, though qualified in my introduction, likely left the impression that I believe these means have little to offer as a solution to the small forest ownership problem. If

I have left such an impression, it is likely the result of my efforts to offer a critical analysis. Actually, I am convinced that forest owner associations as well as other Swedish institutions of forest policy offer much potential to the solution of many of our private forest ownership problems providing we do not forget Dean Streiffert's advice concerning the need to exercise care in adapting such institutions to different environments.

Let us consider, for example, the last difficulty cited above concerning the initial organizing of forest owner associations and how this might be overcome within the framework of American institutions. In this case the adaptation might be effected by drawing on three typically American forest institutions: (1) The long-term forest management lease. (2) The independent private consulting forester. (3) The lending precedent of the Small Business Administration. It is quite conceivable to me that these three quantities could be blended with a minimum of legal reform to provide the leadership initiative needed to create and sustain an organization similar in function and advantage to Swedish forest owner associations. Given this suggested backing of low-cost, long-

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term government loans, I believe many ambitious and enterprising firms of young and dedicated forestry consultants would rise to the challenge.

Now, if I might return briefly to the subject of marketing, it seems to me that there exists a common misconception which warrants clarification. And the need for clarification has become acute since marketing has become a popular subject for American foresters in discussing the difficulties of managing the small forest holding. Analysis of most such presentations will, I am certain, reveal that these men have not been speaking of marketing efficiencies or other marketing topics commonly discussed by economists. Instead, they seem to have had in mind the need for creating or increasing the demand for forest products. And frequently these fuzzy analyses lead them to suggest the formulation of cooperatives on the assumption that they could automatically solve such problems. Admittedly, cooperatives should have the incentive for attempting such a solution but chances are it would require a larger capitalization than normally envisioned for forest cooperatives.

Perhaps one of the foremost lessons we could learn from Swedish forest policies lies in the realm of administrative organization and coordinated action. In describing Swedish forest policy and administration Greeley has stated that "the semi-private forest associations and cooperative societies bewilder and impress the American student by their multiplicity, by their quasi-official status, and by the effective ways, through law or custom, in which their functions integrate in getting the things done that are necessary to the successful practice of forestry." By comparison our own multiple forestry programs seem simple yet many students of forest policy have criticized our inability to coordinate their functions. This sad state of affairs has certainly not resulted in the maximum assistance being rendered to owners of small forest properties and has prompted Gullick to describe the situation as one of "confusion at the grass roots."

This latter point concerning the administration of United States forest policy is just one of many which could be mentioned as suggestive of the need for objective and impartial research into our entire forest policy structure. Such studies, if undertaken, should begin with the basic underlying assumptions for I am

sure that in the past we have been guilty of predicating entire programs on faulty or unrealistic assumptions.

Now before closing, I cannot resist the opportunity to make one or two additional miscellaneous observations based upon my experiences in contacting unbiased samples of forest landowners in widely separated parts of the country. I've emphasized the word "unbiased" here because I am certain most foresters develop distorted impressions of the situation due to the fact that they have only the opportunity of contacting selected groups of owners. And I am equally certain that much is lost in attempting to characterize owners of small forest properties by mere statistics. One of my general impressions not otherwise obtainable except from these experiences, is one of amazement over our accomplishments considering the plight of most owners. Indeed, I think that I would be forced to conclude that forest landownership must be the heritage of the underprivileged; for many of our small forest properties are in the hands of elderly people, partially physically incapacitated and extremely limited on capital.

On the brighter side, I have always

been encouraged by the contrast the younger forest owners present. They are much better informed and are generally anxious to adopt new technology, though often lacking the capital to do so. This leads me to suggest that perhaps the most rewarding institutional change possible for coping with this small ownership problem would be one to facilitate the transfer of forest properties to younger owners without heavily burdening them with debt in the process. It would be a difficult problem, however, for it is even confounded with our welfare programs for the aged since many older persons apparently retain inactive ownership in order to maintain a reserve for financial emergencies.

There are many other points which I would enjoy getting into as a result of Dean Streiffert's thought provoking paper. However, I have already exceeded my allotted time so in conclusion I simply wish to reiterate that I have enjoyed this opportunity to delve into Swedish forest policy with Dean Streiffert. I know that I have learned a great deal in the process and hope that you share at least a fraction of that feeling with me.

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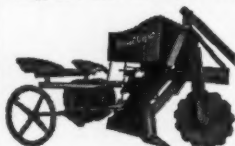
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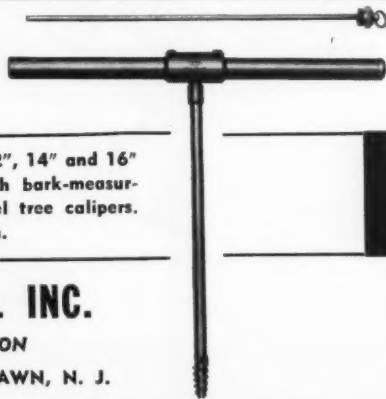
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Sane Use of Herbicides

(From page 31)

may have to be withheld, and the following resorted to: Saw or otherwise cut off the undesirable tree, and treat the stump surface by merely smearing on immediately a handful of Ammate crystals. This would effectively prevent subsequent sprouting.

One of the most important desirable properties of Dybar is the fact that the manufacturer states it is non-toxic to wildlife and pet animals. In fact it is said to have the lowest level of toxicity of the several herbicides now on the market.

Ammate is a useful herbicidal material when it is desired to create a standing dead tree to provide mammal dens, or food and nesting sites for woodpeckers. Under such circumstances, the material is applied in a series of notches or "frills" around the base of the trunk.

For especially difficult situations where poison ivy is on or near a desirable plant, a technique developed by Dr. Carl Sax of the Arnold Arboretum, is useful. This involves making a paste by mixing together one ounce of 2,4-D and 2,4,5-T, with about ten ounces of a material like face cream, vaseline, or vegetable shortening. If the material is not fluid enough, add warm water to the base before adding the herbicide. A toothpaste-like consistency is the ideal sought, so that it can be applied with a brush, or with a rubber-gloved hand to the stems, covering a six-inch high section of the stems, beginning near the base of the plant.

An herbicide in pellet form has other desirable characteristics. One of the most important of these is that it makes unnecessary the hauling of heavy equipment into difficult-of-

access areas. A small quantity can be carried by a single operator on foot to reach any place which can be reached by a human. It also eliminates the time and trouble involved in washing out and otherwise cleaning equipment.

Small-scale experiments with DuPont's pelleted herbicide Dybar, have been carried out at Arcadia Wildlife Sanctuary in Hampshire County, Massachusetts. These experiments are not conclusive because an insufficient amount of time has elapsed for the full and complete action of this material, which is slow-acting compared to some others. This is actually an advantage, inasmuch as under these conditions there is no sudden browning of the entire foliage. However, it already is apparent that the elimination of undesirable woody plant species can, and will be, effected by this material. Already leaf discoloration indicates that several wildlife food and cover areas are being effectively weeded by the use of Dybar. The ease and simplicity with which the material is applied was immediately self-evident, and is the feature which makes it a most useful tool to the wildlife manager.

Effective control of some plants was achieved rather quickly by using Dybar. Self-sown honeysuckle bushes (*Lonicera*) and buckthorn (*Rhamnus*) can be cited. Also quickly eliminated was an area of meadowsweet (*Spiraea latifolia*) after a broadcast treatment. Effective control was also indicated for red oak (*Quercus borealis*), sugar maple (*Acer saccharum*), silky cornel (*Cornus amomum*), speckled alder (*Alnus incana*), poplar (*Populus tremuloides*) and grey birch (*Betula populifolia*).

Herbicides present a small arsenal of tools which can be used or abused as can any tool. Rightfully used they can aid enormously in improving the appearance of areas, and in improving the wildlife carrying capacity of an area. This can be accomplished through the use of herbicides to improve the food supply and the quality of the cover-plant species. In the Northeast, there usually is an adequate amount of wildlife cover. Herbicides wisely used can favor the growth of wildlife food-producing plants. Herbicides offer a new tool. Used properly this modern tool will improve areas for beauty and wildlife.

Washington Lookout

(From page 5)

which have been administratively established, but the wild and primitive areas, as well. While there is no provision for later exclusion of any areas or parts of areas from the system, the burden of proof would lie with those who wished to alter the system. The more logical approach to protection and preservation of wilderness would be to determine first why an area should be classified as wilderness, rather than give it a wilderness title and then set up a cumbersome procedure for unclassifying it. Many areas within the presently designated wilderness, wild, or primitive classification have been so designated for administrative convenience. Funds and manpower have not been available for their development, and like the farmer who ignores the back forty, or delays action on it until he is better equipped to work it, land managers have conveniently taken first things first. Such areas, under the new bill, would be declared wilderness forever.

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Karl S. Landstrom who has had nearly 25 years experience in public land management, and who prior to his appointment had been on the staff of the House Committee on Interior and Insular Affairs. He replaces Edward Woodzley who has joined the staff of Senator Henry C. Dworshak of Idaho. Prior to his appointment as BLM director during the Eisenhower Administration, Woodzley had been Idaho State Land Commissioner. Landstrom began his government career in 1937 as an economist on flood control and water conservation work with the Department of Agriculture. In 1949, he joined the BLM as regional chief of lands and minerals in Portland, Ore. Associate Director, BLM, is also a career employee: Harold R. Hochmuth, formerly staff officer for lands. He has been in federal service since 1934.

Editorial

(From page 7)

Frederick that "traditions in organizations are more important than laws." One of AFA's fine and noble traditions is the preservation of wilderness. Let everyone know that AFA believes in wilderness now as always and that it will not procrastinate indefinitely when proposals that will serve the public interest are brought forward and perfected by prudent men. While hurdles yet remain, it is our belief the Anderson Bill has shed new light on this old and troublesome problem.



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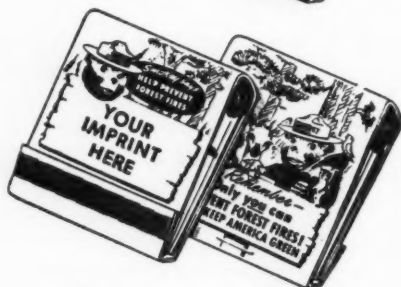
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"Woods Full of Money"

(From page 36)

record of fire control and reforestation was praised by the speaker.

Brief talks were made by Robert M. Hoskins, general forestry agent for Seaboard Air Line Railroad; Harry E. Wood, supervisor of Florida agricultural education; C. H. Coulter, state forester, and J. K. Vessey, regional forester of Atlanta.

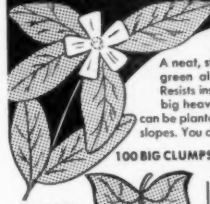
The addresses were preceded by field demonstrations which included cone collection and nursery production by the U. S. Forest Service; mechanical and hand tree planting, Forestry Equipment Company, Jacksonville; fire control, Florida Forest Service; insect and disease, Owens-Illinois, Jacksonville; marketing of creosoted wood products, U. S. Steel Corporation; hardwood control, St. Regis Paper Company, Jacksonville; service forestry, Rayonier, Inc., Fernandina Beach; naval stores, Southeastern Forest Experiment Station, Lake City; fence posts and building pole production, Atlantic Creosoting Company; pulpwood production and paper manufacturing, Container

Corporation of America, Fernandina Beach; sawmilling, Southern Wood Preserving Company, Atlanta; seasoning of lumber, Moore Dry Kiln Company, Jacksonville; pole production and classification, The Koppers Company, Inc.; cross-tie production, Seaboard Air Line Railroad.

Prior to the woods demonstration on February 2, 100 business and civic leaders gathered at the Haven Hotel, on February 1, for a dinner, chaired by Mr. Hoskins. He described the Seaboard's program which extends throughout the Southeast.

The next woods demonstration is scheduled for Wednesday, March 29 at Southern Pines, North Carolina. Voit Gilmore, an Honorary Vice-President of The American Forestry Association will take an active part, with the principal address to be given by Mr. John L. Tower, Vice-President, International Paper Company, New York City. Plans are being made to run a special train from Raleigh, North Carolina and return.

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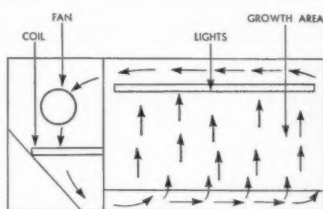
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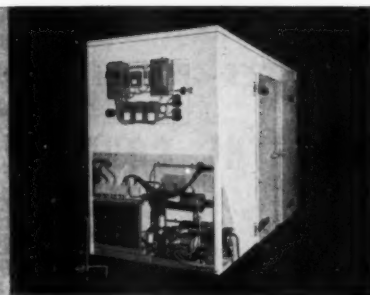
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English and American Park Systems Compared

(From page 4)

of a highly developed system of local government but of very comprehensive planning legislation. Various Town and Country Planning Acts have provided a measure of protection against the disfigurement of the countryside. However, in 1947, another Town and Country Planning Act consolidated all existing legislation, and greatly extended and strengthened the powers of local authorities.

The National Parks Act passed the following year was in no way intended to replace the existing machinery for planning. The National Parks Commission established by the act is merely an advisory group charged with two functions: 1) the preservation and enhancement of natural beauty in England and Wales, and 2) the encouragement of facilities for open-air enjoyment and for access to "open country" in national parks. The commission is directed to see that these interests of amenity and access are not lost amid the clamor of many competing claims.

"Since 1949, in the course of ten years," Professor Darby continued,

"the commission has delimited ten national parks, which together cover 5,254 square miles, that is, about nine per cent of the total area of England and Wales. This delimitation involved prolonged negotiation with local authorities over such matters as boundaries and administration. The care of each park is vested in a local park committee. . . . The committee has the duty of making observations upon major planning proposals within a park, and of commenting upon them—on the one hand to the local park committee, and on the other hand to the minister concerned with planning."

Professor Darby explained that from the point of view of a national park, the considerations of a park planning committee, and of the commission itself, fall into two categories. The first consideration is protection of the landscape. Among the proposals that might injure the landscape are: 1) Industrial activities such as quarrying and the establishment of power stations and oil refineries; 2) Afforestation whether by the Forestry Commission or by private companies and individuals, which generally involves the substitution of conifers for hardwood trees, and also means the loss of "open country for walking"; 3) Building houses and constructing roads; 4) Provision of aerial masts for broadcasting and for telecommunications, especially on high ground; 5) Construction of overhead lines for the transmission of electricity, and the degree to which it is economically feasible to place such lines underground where they pass through districts of outstanding scenic quality.

The second category is concerned with the enjoyment and enhancement of the existing scenery. These activities include: 1) Provision of caravan sites, of camp sites and parking places for cars; 2) Clearance of eyesores such as derelict buildings and airfields, old mining sites, and derelict land generally; 3) Establishment of information centers; 4) Provision of access agreements to open country under suitable arrangements that protect, for example, the shooting rights of owners or tenants; 5) Establishment of warden services.

"As the normal life, economic and social, of a park does not differ in principle from that of the surrounding district," Professor Darby said, "it is inevitable that many proposals

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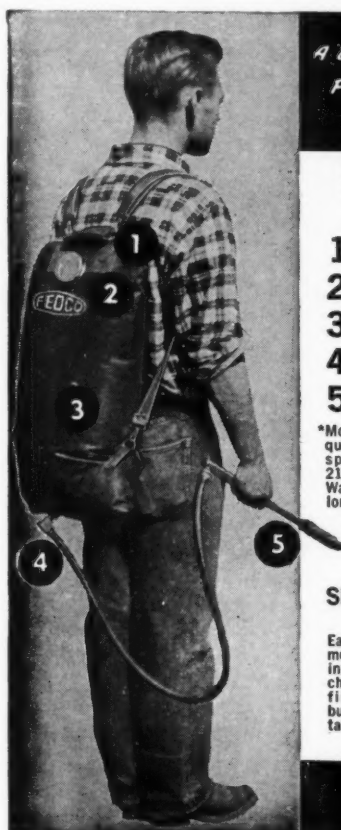
for development within a park should come into conflict with the aim of maintaining the scenic beauty and rural solitude of this or that district. The local interests of those who live and work in a park must be laid alongside the more national interests of those who visit the area for recreation and enjoyment."

Conrad L. Wirth, director, U. S. National Park Service, then pointed to the differences between the systems. "The older and larger national parks of America," he said, "are perhaps unique in that they were set aside before the lands involved were inhabited by modern man and before man had an opportunity to make any significant changes. . . . But, in adapting the national park idea to the circumstances and needs of England, an example has been provided which may in turn be emulated in the United States.

"America has few opportunities," he continued, "and these will not remain open to us long, to set aside new national parks out of primitive wilderness lands. To provide for the needs of the future we shall have to come more and more to the idea that some park and recreation purposes can be served concurrently as the lands involved are also used for other purposes. This concept will have special application to state parks, national forests, and to designated recreation areas in the future.

"But to follow this course does not mean the disruption or dilution of America's primeval national parks. The fact that America, in meeting the expanding outdoor recreation needs, must look more to the combination of recreation with other compatible uses of the same land—even farming and residency—is even greater reason to preserve inviolate the true, primitive wilderness areas of the national park system. What other qualified areas are still available may be added while we can."

The national park system can and does fulfill only a share of the nation's recreation needs, Mr. Wirth said. "Other and related opportunities for recreation are provided in national forests, national wildlife refuges, public domain lands and at reservoirs—which, though they provide for important material resources, yet yield a generous dividend of recreation. However, many of these lands are subject to short-time notice of change in purpose—to meet material uses—and thus alter their original conditions. State park systems and the park and recreation facilities provided by counties and



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FINANCIAL STATEMENT

The American Forestry Association

BALANCE SHEET AS OF DECEMBER 31, 1960

ASSETS		LIABILITIES AND SURPLUS	
Cash	\$ 97,908.00	Accounts Payable	\$ 11,554.75
Accounts Receivable	5,771.39	Other Current Liabilities	2,693.91
Inventories	16,067.30	Deferred Income	106,458.83
Furniture and Equipment (Net)	24,127.42	Reserve for Future Expenditures	5,651.41
Other Assets	25,091.25	Surplus	439,025.13
Endowment Fund Assets	396,418.67		
Total	\$565,384.03	Total	\$565,384.03

INCOME AND EXPENSE ACCOUNT FOR THE YEAR ENDING December 31, 1960

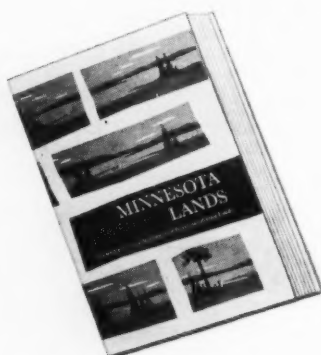
EXPENSE		INCOME	
Membership	\$ 69,304.88	Membership Dues	\$206,491.42
American Forests Magazine	154,685.17	Advertising	72,179.52
Sales	13,820.93	Sales & Miscellaneous Income	24,353.69
Conservation Department	75,452.89	Trail Riders	64,740.00
General Administration	70,779.05	Contributions & Bequests	26,834.10
Total Expense	\$384,042.92		
Excess Income over Expense	10,555.81		
Total	\$394,598.73	Total	\$394,598.73

In our opinion the above condensed Balance Sheet and Income and Expense Account, fairly present, respectively the financial condition of The American Forestry Association at December 31, 1960 and the results of its operations for the year ended on that date.

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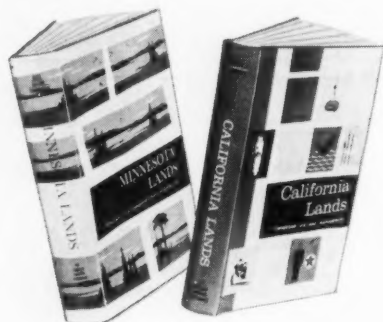
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municipalities are what might be called the basic or "grassroots" recreation resources of the nation, providing for the daily needs of our increasingly urbanized population. The adequacy of each system vitally affects the others, because park and recreation facilities everywhere in the United States are interdependent and must bear their fair share in making our leisure hours healthful, meaningful, and enjoyable."

Dr. Maurice K. Goddard, Secretary of Forests and Waters, Pennsylvania, was more explicit in suggesting the adoption of certain British park policies. "There is an intriguing possibility that some of these pragmatic and typically British techniques can apply to our own landscape," he said, "particularly in the older more heavily settled sections of the United States where there are few extensive tracts of park land in public ownership and where present abusive patterns of land development threaten to snuff out the 'livability' of an entire region."

Practices similar to those of the British are followed by New York State in its Adirondack and Catskill Forest Preserves, he said. In trying to preserve the natural conditions of these extensive tracts, even timber management practices are excluded. "But the people of New York enjoy one advantage," Dr. Goddard declared, "the luxury of outright public ownership, and consequently, encroachments are held to a bare minimum."

Referring to the practicality of zoning, Dr. Goddard said, "It has been our sad experience that wherever zoning has been employed, on even a limited scale, it suffers constantly from the steady and sometimes irresistible attrition of variances and revisions that in most regions have made it useless as a land control measure. As one who has been burned many times, I have been forced to conclude, therefore, that there is no substitute for public ownership. However, land is too scarce and money too short to expect as a practical matter that it will ever be possible to bring under absolute public control the many large water-gathering, scenic, and recreational areas which should be protected from heavy urban and industrial incursions.

"The preservation of such lands is essential in the ecology of a balanced urban environment. The watershed protection they provide, the relief they afford to an urban landscape, the opportunities they present for

recreation, the role which they might possibly play in such complex problems as air pollution—all combine to indicate that it is high time that intelligent land use controls in areas adjacent to the nation's huge metropolitan-industrial complexes be adopted.

"Quite frankly, such a scheme must rest in part on principles somewhat similar to those described by Professor Darby. I do not visualize such a scheme as applying in the great open spaces of the West, but I do see it as one of several useful devices in the more crowded sections of the country where a degree of control must be exercised over land use in the interests of general economic and social well-being," Dr. Goddard said.

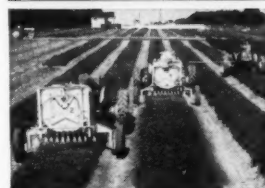
Face of the Country

(From page 11)

small streams run down rocky canyons, partly on the surface, partly underground. The rest of the land is parched and dry. Ahead, still at a great distance, you see the snow-covered summits of the Sierra Nevada. Its east slope is abrupt and dry; its west slope, facing the Pacific, is gentle and covered with magnificent conifer forests.

Nowhere in the world do pines grow so tall and big as in California. Scientists tell us that it is so because in the Sierra Nevada summer days are warm and thus conducive to growth, and the nights are cool so that the products of photosynthesis are not burned to provide calories for respiration, but are saved for building tall trunks and large crowns. Burning calories at night is apparently as bad for trees as for men. But again, the whole story is probably much more complicated.

It is getting dark—with difficulty you can discern below you a lonely highway marked by the lights of an occasional car. At predetermined intervals the highway passes through small clusters of neon lights. The sky and the earth are now a dark, dark violet-blue. Lights twinkle in lonely Nevada homesteads. The day's work is done, supper is finished, dishes are washed and it is time for rest. You fly over the slumbering country. You have seen so much this afternoon. You lean back and close your eyes with an unexplainably cozy and comfortable feeling; the land beneath is a good land and the people take good care of it.



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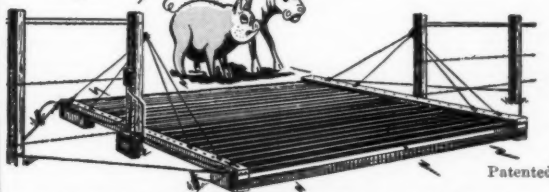
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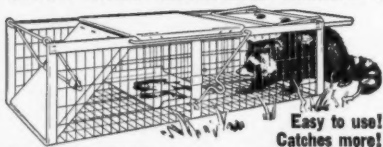
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Tobay Pond

(From page 25)

strip. Assembled in Burns' office in Town Hall in the village bearing the same name as the township were D. R. Gascoyne, then regional director of the U.S. Fish & Wildlife Service; Jack Harney, Long Island representative of the Wildlife Service; Chester R. Blakelock, executive secretary of the Long Island State Park Commission; E. L. Cheatum, chief of the Bureau of Game, State Conservation Department; Edward C. Raney, Cornell University professor of marine biology, and Robert Cushman Murphy, eminent ornithologist of the American Museum of Natural History, who resides on Long Island.

The professionals agreed without dissent that Tobay Pond and surrounding lands constitute a natural property that should be deemed precious not only to the state of New York but to the entire nation. Special importance was attached to the area's desirability as a nesting ground for the larger and less plentiful wading birds, some of whose total numbers flirt with ultimate extinction.

Supervisor Burns' next move, in May, 1958, was to invite the New York State Legislature's Joint Committee on Revision of the Conservation Law to hold a special meeting at Oyster Bay Town Hall. The committee readily concurred in the conclusions already reached concerning the need to protect Tobay Pond from any encroachment.

Assemblyman Leo Lawrence of Herkimer, N. Y., sponsored special legislation permitting the state to join with Oyster Bay Township in the endeavor. His bill was passed at the 1959 session of the legislature, which meets annually from January through March.

Governor Nelson A. Rockefeller showed his cognizance of the import of the move when he called it a "beneficial and far-reaching conservation measure."

"Unless steps are taken toward preserving what is left of Long Island's wetlands, they are in danger of being destroyed by the increasing eastward press of population on the island," Gov. Rockefeller wrote in approving the legislation.

"These areas, comprising the tidal marshes and islands in the bays of Long Island, are unique in their recreational and esthetic aspects.

Long Island lies across the Atlantic Flyway, down which millions of migratory waterfowl come each fall. The wetlands provide resting and wintering grounds for these birds which are enjoyed by both sportsmen and naturalists alike.

"Furthermore, these areas are valuable commercially, as they provide seed beds for shellfish and spawning grounds for fish. These wetlands should be preserved for the benefit and enjoyment of future generations."

Later in 1959, consultations began between officials of Oyster Bay Township and of the State Conservation Dept. leading to plans for the implementation of the joint guardianship of Tobay Pond.

Friends of conservation were heard from. The Linnaean Society of New York, for example, wrote Burns:

"In an area such as Nassau County where the voices for conservation of our wildlife and natural areas have been but a feeble cry before the demands of private interest and an explosively expanding population, it is encouraging to see that some of our public officials have the vision and courage to set aside part of our natural heritage before it completely disappears."

Burns and State Conservation Commissioner Harold G. Wilm signed a special agreement late in 1960, putting the pioneering project into action. Declared Wilm:

"The cooperative agreement . . . is an historic first in what we hope to be a vigorous and effective long range program of close cooperation between the Conservation Department and towns and counties that want to preserve these areas.

"The Tobay Pond project is not only significant to our own state, but in connection with waterfowl, shore birds and certain species of marine fishes, will benefit the whole eastern seaboard."

The Tobay Pond Wildlife Sanctuary is open the year round. When the state's improvements are completed, a permit issued by the township will be required for admission.

Oyster Bay Township owns a total of 5,000 acres of wetlands in the vicinity of Tobay Pond.

"Our legislative intent," declares Supervisor Burns, "is to leave all of it unspoiled."

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The Hidden Value

(From page 29)

imals and lesser forms among both predators and prey. This wealth of checks and balances is exactly what permits wild populations to adjust without the heavy hand of man. In such a system, every living thing has some useful purpose.

So when speaking of wild, living things it is a mistake to place them in categories of either *good* or *bad*. Nor is it ever easy to weigh one viewpoint against the other. Nature's balance is never that simple. In fact, nature's patterns are infinitely more complex than our man-made patterns of civilization and we are only beginning to learn these patterns and the laws which govern them.

We may still admit that poison ivy, termites and mice are troublesome pests to us, but we should also recognize that every living thing has some ecological value, some niche to fill within its own natural community. Incidentally, the challenge of this lesson never fails to stimulate the youngsters I often take on outdoor excursions. It is their lesson in appreciation.

Land of Falling Water

(From page 21)

the fine concession building near the brink of South Falls was made under the supervision of the last named organization.

Constructed of Oregon myrtle wood the furniture is strikingly beautiful. Table tops glisten in the light of the huge fireplace and the chairs are true works of art. Perhaps no other place in the world has such a large group of furniture made of this rare, gorgeous wood. Dining here is indeed a pleasure and is a popular "evening-out" spot for residents of Salem and Albany.

The old CCC and WPA camps—buildings and grounds—are now utilized as youth camps made available to civic and church organizations, Y.M.C.A. and Y.W.C.A. These have swimming pools and recreational areas such as ball fields, boating facilities, and many more. For the most part these facilities are not open to public use.

However, the state of Oregon, with federal help, has provided some of the best camping and picnicking areas in the country within the bounds of Silver Creek Falls State Park. Altogether there are 41 campsites and 9 trailer parks. There are

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Due to its nearness to Salem, Albany, Portland and other cities of the populous Willamette Valley this popular place is often filled on holidays and week-ends throughout the summer. For the greatest enjoyment of its peaceful atmosphere the mid-week is recommended. Late April and May find the forests here filled with blooming azaleas, rhododendron, flowering plants too numerous to mention. Fall is a time of changing colors with the maples, the aspens, the deciduous trees and bushes, standing in striking contrast midst the evergreen fir and cedar.

This is an ever-changing, always delightful spot. Even before the state purchased the land from early home-

steads this was a popular recreational area. As early as 1846, in the very days of Oregon's infancy, Silver Creek and its falling water, its shade and its solitude were known and appreciated. It was then the place was named. Since that time it has been erroneously believed that the name came from silver mining operations on the stream, but silver was not discovered till many years after the stream was named.

No doubt the falls themselves brought the name that has endured for more than a century; they are the central theme of this place.

Today the visitor can enjoy the miles of easy trails, the wading pools for the small (if he is small), bow-
ered benches, fountains and picnic tables, or hours of nature study or photography. But always, always the falls are ever present. Even upon departure and for days afterward the song of the land—the sound of rushing water, distant and muted—will linger in the mind alongside the sight of ribbons and veils of silver pouring and pouring into canyons of green and growing things.

Easy Solutions to Land Use Questioned

(From page 22)

from one federal department to another does not lessen the danger of forest fires which are by far the greatest despoilers of scenery. Similarly, they are careful not to emphasize the fact that, under the National Park Service, various forms of recreation such as hunting are customarily ruled out, thus further restricting the full potential of the land.

It is most unfortunate that the controversy has thus involved and revived old bureaucratic rivalries, aided and abetted by well meaning friends of both Interior and Agriculture—of the national parks and of the national forests. There has always been pressure, particularly in the West, to encroach upon our national park areas with schemes for economic development. If more and more natural resources become rigidly locked into the national park complex, greater and still greater pressures will arise to acquire a foothold here and there and thus eventually break down national park principles. While, for example, the addition of seashore areas involves a minimum of complications for the Park Service, the bitterly contested transfer of more timberlands only asks for serious future trouble. It may indeed be poor policy to put a greater strain on this already heavily

burdened bureau. The advantage of the Forest Service on the other hand is that it can give an inch here and an inch there when pressures become too great and at the same time not break down basic principles. This, the more rigid Park Service presumably dares not do, lest it allow a precedent which would permit the raiding of all our wonderful existing primitive parks for water power, for timber or other commercial development. Indeed, some preservationists have raised their eyebrows when contemplating commercial developments which have appeared in several of our national parks during the last few years. It would seem that the Park Service indeed has its own difficulties in adhering to the restrictive policies at present governing their operation.

For the very reasons of population growth mentioned by Mr. Stedman, it becomes immensely important to avoid excess rigidity in planning for our nation's future. Admittedly the task of the U. S. Forest Service in administering multiple use will always be difficult. There is only just so much "pie" and every interested party wants what it believes to be its particular share, marked out and guaranteed in advance, regardless of the fact that the whole pie is no

longer big enough to permit this type of generosity. The present debate, however, is not so much a struggle between different economic uses as it is a conflict between practical and esthetic values. A few highly vocal supporters of esthetic values readily assume a self-righteous tone which they believe to be justified merely through being "untainted" by commercialism. Recently by sheer quantity of propaganda they

have endeavored to establish their claims before a sector of the American public which gives credence to emotional altruism without testing its claims. It therefore becomes all the more necessary to point out such false assumptions and blind spots as those mentioned above. It may require the wisdom of a Solomon to make all the right decisions but let us beware of the volunteer Solomons with the hasty answers.

Conservation For Children—On the West Coast

(From page 17)

Soon the spirit of the outdoor adventures had worked its way throughout the entire KOMO operation. With the station management's blessing, features were frequently developed and filmed entirely by the KOMO staff. On the other hand, Keep Washington Green was able to go out on filming excursions with the knowledge that the material they produced could be worked into the Puget Show.

"This gave us a three barreled operation," McCune said. "By working either together or independently, we were able to provide a wide variety of subject matter."

In most cases the film was silent and in black and white. Puget and Furseth would narrate during the showing of the film on the program. Filming was frequently done on weekends to meet the show's five day a week schedule.

A typical example of the daily half-hour Captain Puget Show would look something like this: Introduction, opening remarks; interview and presentation of bell award, followed by a fire prevention announcement; contest information; a commercial; a cartoon; a film feature on a Puget adventure trip or excerpts from an interesting outdoor film; interview featuring Chuck Lee, the show's water safety director; a commercial; a Seattle school or park department announcement; another cartoon; closing remarks.

In order to establish a two way relationship between the program and its audience, the youngsters were involved in the spirit of the outdoors through frequent contests and mailings. Douglasfir seed and planting instructions were sent to those who wrote in. Instructions on how to report fires were mailed out. During the fire season, a "Ships Bell" award was presented weekly to a youngster who had helped in a conservation project or had been instrumental in reporting or aiding in the suppression

sion of a potential forest fire.

Nineteen youngsters appeared on the program to receive bell awards during the summer.

Not content to confine his presentation to the limits of a TV studio, McCune carried the features to what he terms "the natural conclusion," by personal visits to school assemblies and classrooms. Several short features were combined into one twenty or thirty minute outdoor adventure which Puget and Furseth presented to more than 15,000 youngsters in 70 different schools during 1960.

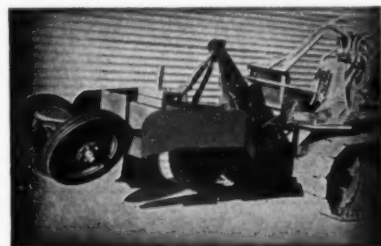
"On these occasions we made sure to bring the camera along and take pictures of the youngsters," McCune said. "We told the youngsters they could see themselves on film on television. From that point on," he added with a smile, "we always had their full attention."

McCune comes by his love of the outdoors naturally. A native of Aurora, Illinois, he came west to work for the C. C. C. program and Forest Service following high school graduation. A determination to go into communications led him to the University of Washington, then into radio work in Seattle.

The job as manager of a Fairbanks radio and television operation took him to Alaska for 8½ years. One of his productions there, a feature program on territorial history, earned him an Alaska Press Club award. He was also selected as "Boss of the Year" for Alaska one year by the Fairbanks Junior Chamber of Commerce.

McCune returned to Seattle in 1956 to create the "Captain Puget Show" on KOMO-TV. In 1958, the Puget Show earned the national Sylvania Award for creative contribution to television.

The Keep Washington Green Association staff credits McCune's initiative, and the backing of KOMO management as key factors in the suc-



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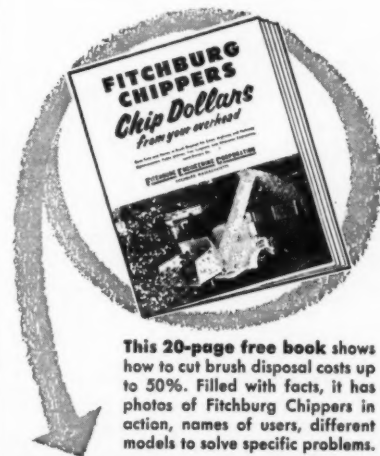
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cess of the cooperative program.

"They have worked valuable public service material into a commercial children's program," says KWG director Richard Pardo.

"Even more important," Pardo said, "KOMO has shown that it is

possible for a television station to present worthwhile and interesting material to the young viewing audience."

"And what's more," says McCune, "the kids, and their parents, go for it in a big way."

The Investment Merits of Trees

(From page 27)

the following year, and if this practice is continued annually for the next six years, the owner will then possess an eight-acre tree farm with an intrinsic market value of over \$15,000—compared with his initial \$300 cost. By selling the trees from the oldest acre each year and replanting with 2,000 young seedlings, a minimum profit of \$2,500 may be realized annually for an indefinite period.

When planting Christmas trees it is important to avoid overcrowding. Closely spaced trees grow taller, but they interfere with their neighbors and their branches are thin. Pines should average about 2,000 an acre and be spaced 5-6 feet apart. Spruce planted 4-5 feet apart should average 3,000 an acre. The preferred planting seasons in northern areas are March 15-May 15 and September 1-November 1, or until the ground freezes. The regular planting seasons should be followed in moderate climates.

Evergreens have a cost and time saving advantage over planting other crops in that it isn't necessary to prepare the soil and dry fertilizer should not be used: it may burn the roots. Plowing may cause the land to settle too much after planting, while weeds, or light sod, will help conserve natural moisture and shade young trees during hot weather spells.

If trees arrive direct from a nursery, unpack promptly but avoid exposing the roots to wind, or direct sunlight. Where relatively few trees are involved it is preferable to plant by hand. Planting machines are not practical for less than 50,000 trees.

Pruning, or shearing, is advised for all species of pines and usually spruce. Pines should be sheared between June 1 and July 15; spruce and fir between late June and the onset of cold weather. This will develop a dense, heavy, symmetrical tree and command the highest prices. Never prune a tree the year it is to be harvested.

Cut and market the trees when they reach a desired size. Some tree-men sell their trees in the ground at

retail: the customer chooses the tree himself and takes it away. Others wholesale their trees on the stump to a dealer, or cut and ship to the nearest market.

The custom of using evergreens at Christmas was virtually unknown until about 1851, when an old woodsman from the foothills of the Catskills made a two-day trek to New York with an ox-cart laden with evergreens. Since then the volume of trees sold annually at Christmas has spiraled to about 40 million. With new family formations increasing the need for homes, and paper consumption in the U. S. climbing successively to new peaks, the volume of trees sold for lumber, wood pulp and the Christmas market should continue to expand, and cause a wider recognition of the value of timberlands as a profitable haven for surplus time, energy and investment funds.

It has been estimated that some 60 per cent of all commercial forest land in the U. S. is owned by approximately 4 million so-called woodland owners. But only about one-eighth of this timber has been brought under sound management. Not only is the person who mismanages a forest, or woodlot, killing the goose with the golden eggs, but he is doing so at a time when the price of eggs is climbing. In taking care of your woodlot you are not merely inviting reproduction of the more valuable kind of trees, you are also protecting the young trees, many of them just little below merchantable size, which in a comparatively few years will be ready for use.

Money doesn't grow on trees, to be sure, but it can and does grow with trees, as many astute investors are becoming aware. Our nation's proudest heritage is 664,000,000 acres of forest land, and it is imperative that they be preserved.

U. S. LUMBER PRODUCTION

According to figures compiled by the National Lumber Manufacturers Association, the nation's sawmills produced 34,753,000,000 board feet of lumber during 1960. This estimated volume was six per cent less than the 1959 figure, but it was above the 1957 and 1958 levels.

Conservation For Children—On the East Coast

(From page 16)

ened its base to deal with silt control, hydroelectric power, and recreation objectives. It produces 2,920 spot announcements each year which are sent free to thirty radio stations in the Washington area. "Our Beautiful Potomac" is an outstanding example of station leadership in fundamental community affairs.

At WTOP-TV (CBS) a favorite children's personality, "Ranger Hal," assumed the role of a forest ranger, and as a leading television conservationist urges his thousands of youthful viewers to be careful with matches and fires in the woods and the parks. He has made numerous trips to the Washington Zoo and through filmed stories has made his viewers most aware of the greatest symbol for forest fire prevention, Smokey Bear, a resident of the Washington Zoo.

Many more of the city's television personalities have contributed much of their time and talent to Smokey Bear and his Forest Rangers organization. At WMAL-TV (ABC) one of the city's veteran performers, Jackson Weaver, provides the radio and television voice when Smokey speaks out across the land against fire carelessness.

Pick Temple, another WMAL-TV star, has been honored for his on-the-air work in the cause of fire prevention and possesses the badge of an honorary fire marshal in Maryland's Montgomery County. Pete Jamerson, a WMAL-TV puppeteer, uses his characters to dramatize the conservation story for his pre-school viewers. These men and their counterparts across the country have played a major role in building the Junior Forest Rangers into an effective organization of more than three million Americans who are determined to prevent fires.

A recent incident reflects the spirit of pride that prevails among these members. A bulky letter arrived at the headquarters of Smokey Bear in Washington on a recent morning. The contents included a badge of membership in the Junior Rangers and a letter from a nine year old boy. The boy confessed that he had been responsible for a grass fire which had resulted when he played with a match. As a result he felt that he was no longer worthy of continuing in good faith and was submitting his resignation. In a postscript he asked if he could ever be reinstated.

Setting a pace in the field of agricultural broadcasting comes radio's "The American Farmer" airing the story of the Department of Agriculture's efforts towards improved farming and the conservation of natural resources. The program originates in the studios of WMAL-Radio and is broadcast over the American Broadcasting Company's facilities to the farm communities over the nation.

American television has scored a remarkable success in 1960. There is much more to be done in alerting the public to the conservation story. The leading stations are already on the way to even more active and creative work. That they have accepted the challenge is noted by many of the leaders of the communities they serve as in the following letter from Representative Charles McC. Mathias, Jr. of Maryland. He wrote:

"I am indeed pleased to note the fine contributions made by the radio and television industry in the field of conservation. As a Member of Congress from Western Maryland, I am closely concerned with problems relating to the Potomac River Basin, the Rock Creek Watershed and the Chesapeake and Ohio Canal. It is most gratifying for me to know that our local radio and television stations have used a considerable portion of their public service time for discussions of local conservation problems.

"Not the least important facet of this programming service has been the fine work on many of the children's programs in educating and engendering interest among the greatest of all resources—our children—in the conservation of our natural environment that is the very marrow of our great land. I salute the broadcasting industry in our Nation's capital for its enlightened interest in conservation."

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Feature Photos of the Month

Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected, AMERICAN FORESTS will pay \$10

Photo submitted by Bartlett Tree Expert Company

A Tree Makes an Oriental Face: A 16-inch limb was cut from a Norway maple recently and this face formed by Nature popped out. The limb started out as two branches 25 years ago. In the fusing process two twigs were intercepted to form the eyes. Frost cracks added the mustache, and a blob of heartrot formed the mouth. The dark area making up the face is the heartwood, the lighter area the sapwood.



Photo submitted by David Nicholson, Centralia, Washington

From protection of mother's wing, nestling peers at the world. These Caspian terns were photographed on Goose Island in Gray's Harbor, Washington.



Ontario Department of Lands
and Forests Photograph

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*Data from 1959 survey, "The Woodcutting Industry." Details on request.

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